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J. S. T. Stranahan

June 10 1886

ANNUAL REPORTS

OF THE

BROOKLYN

PARK COMMISSIONERS.

1861—1873.

REPRINTED
BY ORDER OF THE BOARD,
WITH SUCH ACTS OF THE LEGISLATURE
IN THEIR AMENDED FORM,
AS RELATE TO THE
BROOKLYN PARKS, AND THEIR MANAGEMENT.

JANUARY,
1873.

PROSPECT PARK.

VIEW FROM THE RESERVOIR LOKING WEST–1860.

FIRST ANNUAL REPORT

OF THE

COMMISSIONERS OF PROSPECT PARK,

BROOKLYN.

JANUARY 28th, 1861.

To Hon. MARTIN KALBFLEISCH,
President, &c., of the Common Council:

SIR:

In pursuance of an Act of the Legislature, I herewith present to the Common Council of the City of Brooklyn the First Annual Report of the Commissioners of Prospect Park.

I have the honor to be,
Very respectfully yours,
J. S. T. STRANAHAN,
President Board of Commissioners of Prospect Park.

Brooklyn, January 28th, 1861.

REPORT

OF THE

COMMISSIONERS OF PROSPECT PARK.

By the 20th section of the Act of the Assembly of April 17th, 1860, entitled "An Act to lay out a Public Park and a Parade Ground for the City of Brooklyn, and to alter the Commissioners' Map of said city," it is made the duty of the Commissioners of Prospect Park, in the month of January of every year, to make to the Common Council of the City of Brooklyn a full report of their proceedings, and a detailed statement of all their receipts and expenditures.

In complying with this provision of the law, the Commissioners deem it proper to introduce their first Annual Report with a history of the successive legislative enactments relating to the subject upon which they are called to act.

On the 18th day of April, 1859, at the solicitation of the citizens of Brooklyn, the Legislature of the State of New-York passed the following act, entitled

"AN ACT

To authorize the selection and location of certain grounds for Public Parks, and also for a Parade Ground for the city of Brooklyn.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. John Greenwood, J. Carson Brevoort, William Wall, James Humphrey, John A. Cross, Nathaniel Briggs, Abraham J. Berry, Samuel S. Powell, Thomas H. Rodman, Nathan B. Morse, Thomas G. Talmage, Jesse C. Smith, Daniel Maujer, William H. Peck and Luther B. Wyman, or such of them as shall undertake the office of this commission, are hereby appointed Commissioners to select and locate such grounds in the city of Brooklyn, and adjacent thereto, as may, in their opinion, be proper and desirable to be reserved and set apart for Public Parks, and also for a Parade Ground for said city; and they shall report such selection and location to the

Common Council of said city, on or before the first day of November next, and also to the next Legislature, upon the assembling thereof.

§ 2. The said Commissioners shall receive no compensation for their services, under this act, but they are hereby authorized to procure maps and plans of the grounds so selected and located, and to employ surveyors for that purpose at an expense of not exceeding the sum of two hundred and fifty dollars; and the same shall be a charge upon the said city of Brooklyn, and shall be paid as other city charges.

§ 3. The said Commissioners shall make such selection and location, in view of the present condition and future growth and wants of said city; and the first meeting of the Commissioners shall be held on the first Monday of May next, at twelve o'clock at noon, at the Mayor's office, in the City Hall in said city.

§ 4. This act shall take effect immediately."

The gentlemen named in the above act entered upon the discharge of their duties, with that earnest interest in the welfare of the city which had previously distinguished most of them in other public positions.

On the 9th of February, 1860, they submitted to the Legislature, through his Excellency, Governor Morgan, the following report, signed by all the gentlemen named in the act of 1859, except Messrs. Humphrey, Wall and Briggs:

"The undersigned Commissioners, appointed by an act of the Legislature of the State of New York, entitled 'An act to authorize the selection and location of certain grounds for Public Parks, and also for a Parade Ground for the city of Brooklyn,' passed April 18, 1859, respectfully

REPORT:

That, after a most careful consideration of the subject, aided by the suggestions and advice of many of their fellow-citizens, who were invited to submit their opinions to the commission, and in view, both of the present condition and the future 'growth and wants of the city of Brooklyn,' as expressly directed by the act creating the commission, they recommend that the lands hereinafter described, be reserved and set apart for public parks and a parade ground for said city, viz.:

1. That piece of land situated on what is commonly called Prospect Hill, lying chiefly in the Eighth and Ninth wards of the city, a small part being in Flatbush, adjacent to the city, and particularly described as follows, viz.: Commencing at the intersection of Douglass street and Washington avenue; running thence southerly along Washington avenue to the city line, at Montgomery street; thence southwesterly in a straight line to the intersection of the city line and Ninth street; thence northwesterly along Ninth street to Tenth avenue; thence northerly along Tenth avenue to Third street; thence

northwesterly along Third street to the centre of the block between Eighth and Ninth avenues; thence northerly in a line parallel with Ninth avenue to Douglass street; thence easterly along Douglass street to Washington avenue, the place of beginning, containing about two hundred and fifty acres, exclusive of Flatbush avenue and the reservoir, which, together, contain seventeen acres, making the whole area of the park about two hundred and sixty-seven acres.

This land is designated on the map hereto annexed, by the letter A, as Mount Prospect Park. The estimated present value of this land, with the buildings thereon, is one million of dollars.

2. The piece of land situated at, and adjacent to the receiving reservoir of the Nassau water works, at Ridgewood, lying partly in the county of Kings and partly in the county of Queens, and designated on said map by the letter B.

3. The piece of land situated at what is commonly called Bay Ridge, and designated on the map hereto annexed by the letter C.

The Commissioners recommend that these three pieces of land be reserved for city parks, for the general benefit of the city of Brooklyn and the county of Kings.

4. They also recommend that a piece of land, of about twenty-five acres, situated at East New York, in the town of New Lots, to be taken from the southerly portion of the lands of the heirs of White Howard, deceased, be taken and reserved for a parade ground. This land is designated on the map by the letter D.

That the three following described pieces of land be taken and reserved as local parks, to be paid for on the principle of assessment adopted in the case of Washington park, in this city, if no other principle should be deemed more equitable and expedient, viz.:

First. All that parcel of land, situated on Brooklyn Heights, overlooking the East river, the Bay, the city of New York, and the shores of New Jersey, and lying between Remsen, Montague, and Furman streets and Pierrepont place, and designated on said map by the letter E, commanding a view unsurpassed, as is believed, for varied and picturesque beauty.

Second. The land lying between Ewen, Smith, North-second, and Ainslie streets, comprising four blocks of ground, and designated on said map by the letter F.

Third. The land lying between the Fourth and Fifth avenues and Third and Sixth streets, comprising three large blocks of ground, containing about seventeen acres of land, and designated on said map by the letter G.

The Commissioners have, perhaps, performed the duty assigned to them, by simply making the above recommendations. But the great importance of the subject, and the deep interest which they feel in the prosperity and future progress of the city, may excuse a brief statement of the reasons which led them to the above conclusions.

No single location for a great central park, suitable both to the present state and future growth of the city, presented itself.

Prospect Hill, on account of its commanding views of Brooklyn, New York, Jamaica Bay, and the Ocean beyond, of the eastern part of Kings county, of the Bay of New York, Staten Island, the Nar-

rows, and the New Jersey shore, the undulating surface of the ground, the fine growth of timber covering a large portion of it, the absence of any considerable improvements to be paid for, has, for many years, been contemplated by our citizens as a favorite place for a park.

Another very important consideration was, that the distributing reservoir was established there, upon a piece of land of about fourteen acres, owned by the city. While this would add to the attractions of a park, the park, by surrounding, would protect the reservoir from encroachments, which might, at a future time, prove a serious detriment.

The county has also recently purchased land near the reservoir, for a court-house.

But this place, however suitable in other respects, is not central, in reference to the whole population of the consolidated city of Brooklyn. That population now extends for a distance of about eight miles along the East river and the Bay of New York, namely, from Greenpoint, on the East river, to the northerly line of New Utrecht and is destined to extend still further, as is believed, in both of those directions, keeping pace with the northward movement of the population of New York, and at the same time rapidly occupying the cheaper, but equally attractive situations lying along the eastern shore of the bay, towards Fort Hamilton.

The progress of population eastward has been quite as remarkable, and seems to justify the current opinion that in a few more years of such increase, not only a large portion of Kings county, now lying beyond the city limits, but a considerable part of Queens, will be merged in the city.

A glance at the annexed map will illustrate these statements, and show that a park at Prospect Hill could not fairly be called a Central Park; but though very accessible to the inhabitants of the Western district, so called, is more distant from, and less accessible to those of the Eastern district.

The Commissioners, in view of these facts, of the incalculable importance of protecting from encroachment the great receiving reservoir at Ridgewood; in view, also, of the diversified surface of the land there, of its fine natural forest, of the noble views of the surrounding country, the Bay and Ocean, presented from its heights, and the comparative cheapness of the land, determined to recommend that another large city park be laid out there.

This receiving reservoir, lying in a tract of land of about fifty acres, owned by the city, now has the Cemetery of the Evergreens on the southwest, and the Cypress Hills Cemetery on the northeast. These cemeteries are now at a distance from the reservoir, but the population of the cities of the dead increases, only less rapidly than that of the abodes of the living.

The reservoir certainly should never be allowed to come in contact with these cemeteries.

Ridgewood is near the termini of three city railroads, communicating with six ferries on the East river. The population of the city is rapidly spreading in that direction.

A portion of the land recommended for a park lies beyond the

city line, and is in Queen's county; but so is a part of the reservoir. This circumstance, especially in view of the rapid approach of the time when the city proper will absorb all this territory spoken of, affords no substantial objection to the proposition.

This land will, we think, require but a small expenditure for embellishment. It may be almost called a natural park. It presents a great diversity of surface, yet is smooth and free from rock. A large portion of it is well covered with timber, and the ridges of the hills overlook a charming landscape, bounded on the south only by the ocean, which is in full view.

The land proposed for a park at Bay Ridge is well situated, commands magnificient views of the bay, the ocean, Staten Island and the New Jersey shore. It is now purchasable at a comparatively low price. If, as has been suggested, a macadamized road from Fort Hamilton around the eastern side of the city, passing over Prospect Hill, around Ridgewood Reservoir, and so westward to the river at Green Point, should be laid out, this, in connection with the other two great parks and the drive, would afford a public attraction unsurpassed, as we believe, in the world.

Irrespective of this particular communication between the three parks, Atlantic avenue, if widened and ornamented as proposed by a bill now before the Legislature, will form a communication between the Mount Prospect and the Ridgewood Parks, and greatly enhance the value of all the parks as places of resort for health or pleasure.

The Parade Ground recommended has been, by common choice, used for many years by the military of Brooklyn, and to some extent by that of New York, for exercises and displays. In the opinion of military men, this can be made as perfect a parade ground as could be desired.

It lies near the termini of the three city railroads spoken of as terminating at Ridgewood. The land is almost perfectly level and smooth, and is commanded by the high grounds of Ridgewood Park as proposed. The Commissioners, after full consideration, are convinced that it is inexpedient to have the Parade Ground within either of the parks proposed; and that neither the comfort nor the safety of the citizens generally would be promoted by bringing large crowds of men, women and children in close contact with bodies of soldiers, exercising or on parade.

That these public grounds should now be secured to the city, the Commissioners have no doubt. With the increase of the necessity for them, if not now reserved, will come a rapid increase of the cost of finally securing them. By taking them, we know the city in the first instance releases so much taxable property from the taxing power.

The taxable value of the land lying in the three large parks is supposed to be about $300,000.

The Commissioners entertain the hope that if these improvements are made, the increased taxable value of the real estate lying in the vicinity of these parks, the addition of a very large amount of taxable personal property, which may be expected as incidental to the increase of population, and to the general rise in the value of the real estate of the city, produced by these and the other great

improvements now in progress, will not only prevent the withdrawal from taxation of the lands taken for parks from being felt, but will prevent the payment of the interest upon the debt created, and the gradual extinguishment of the debt itself from becoming burdensome.

While it behooves our citizens to avoid creating oppressive burdens, something must be conceded to the taste and spirit of the age—an age unequalled in activity, enterprise, intelligence and refinement, something to the peculiarity of our geographical situation contiguous to the metropolis of the western world, and something to the wants of future millions, who seem destined to draw largely to this point of the resources of every nation on the earth.

The intense activity and the destructive excitement of business life as here conducted, imperatively demands these public places for exercise and recreation. If they tend to abate this excitement and to divert our people somewhat from the mere struggle for wealth, their moral and physical effects will compensate largely for the pecuniary cost.

As already intimated, the fullest opportunity has been afforded to our fellow citizens to express their wishes and opinions in regard to this matter. Some earnestly advocated the adoption of a plan for a grand drive or carriage road, to extend from Fort Hamilton to Green Point, connecting a chain of five parks, somewhat smaller than the three city parks recommended; three of which were proposed to be located where such large parks are recommended by the Commissioners. The Commissioners concluded that the pleasure of a great drive, though accessible to the more opulent, would be entirely inaccessible to the masses of our people; that these need parks to which they can go on foot or by the cheap railroad lines, where health and pleasure shall be freely offered to all classes.

Again, the Commissioners heartily approve and recommend the plan for widening and ornamenting Atlantic Avenue referred to, and trust that it will be sanctioned by the Legislature. That will connect the two great parks at Mount Prospect and Ridgewood by an avenue unequalled for beauty in this country, at a moderate expense, and prove beneficial, as we believe, to the property on the line of improvement. For the purposes of a drive, that avenue will furnish all needful accommodation.

All which is respectfully submitted,

J. GREENWOOD,
THOMAS G. TALMAGE,
L. B. WYMAN,
THOS. H. RODMAN,
JESSE C. SMITH,
SAMUEL S. POWELL,
JOHN A. CROSS,
ABRM. J. BERRY,
DANL. MAUJER,
J. CARSON BREVOORT,
N. B. MORSE,
WM. H. PECK.

Brooklyn, February 3, 1860.

In pursuance of the recommendations in the foregoing report, the Legislature, on the 17th day of April, 1860, passed the following act, entitled

"AN ACT

To lay out a Public Park and a Parade Ground for the city of Brooklyn, and to alter the Commissioner's map of said city.

Passed April 17th, 1860—three-fifths being present.

The People of the State of New York, represented in Senate and Assembly do enact as follows:

SECTION 1. All the following tracts, pieces or parcels of land in this act described, having been selected and located for a public park and for a parade ground for the city of Brooklyn, by the Commissioners appointed for that purpose, by the act entitled "An act to authorize the selection and location of certain grounds for public parks and also for a parade ground for the city of Brooklyn," passed April eighteenth, eighteen hundred and fifty-nine; the said tracts, pieces and parcels of land, are hereby declared to be public places, that is to say: All that piece or parcel of land, situate, lying and being in the city of Brooklyn, and town of Flatbush, and bounded and described as follows:—Commencing at the intersection of Warren street and Washington avenue; running thence southerly along Washington avenue to the city line at Montgomery street; thence southwesterly in a straight line to a point one thousand feet easterly in a straight line drawn from the intersection of Ninth street with the city line; thence to the intersection of the city line and Ninth street; thence northwesterly along Ninth street to Tenth avenue; thence northerly along Tenth avenue to the northerly side of Third street; thence northwesterly along Third street to Ninth avenue; thence northerly along Ninth avenue to Flatbush avenue; thence along Flatbush avenue to Vanderbilt avenue; thence along Vanderbilt avenue to Warren street; thence easterly along Warren street to Washington avenue, at the place of beginning, is hereby declared to be a public place to be known as Prospect Park, and which shall be a charge upon said city as hereinafter provided.

§ 2. All that piece of land situate, lying and being in the town of New Lots, to be taken from the southerly part of the lands belonging to the heirs of White Howard, deceased, containing about twenty-five acres, is hereby declared to be a public place, to be known as the Parade Ground, and which shall be a charge upon the county of Kings, as hereinafter provided, and shall be under the management and control of the Supervisors thereof.

§ 3. The aforesaid pieces of land shall, from and after the passage of this act, be public places, and the lands in the first section of this act mentioned, shall be deemed to have been taken by said city of Brooklyn, for public use, as and for a public park, and to have been declared open as a public place, with the same effect as if the whole of the same had been within the city of Brooklyn, and as if they had been taken and declared open under and in pursuance of the provisions of an act entitled "An act to revise and amend the sev-

eral acts relating to the city of Brooklyn," passed April fourth, eighteen hundred and fifty, and the acts amendatory thereof, except as herein otherwise provided, and with the same effect as if the same had been originally laid down upon the Commissioners' map of the city of Brooklyn, and from and after the passage of this act, they shall be and form a part of said city of Brooklyn, and of said Commissioners' map; and the parts of all streets, avenues and highways, (except Flatbush avenue and Third street,) laid out as running through said pieces of land, are hereby closed and discontinued and stricken from the said Commissioners' map, so far as the same would run through or intersect said pieces of land, and the land in the second section of this act mentioned shall be deemed to have been taken by the County of Kings, as and for a parade ground.

§ 4. Three discreet and competent persons, being citizens of the State of New York, shall be appointed to act as Commissioners of Estimate and Assessment, in relation to the taking and the value of the land mentioned in the first section of this act; and three other persons shall also be appointed Commissioners of Estimate in relation to the taking and the value of the lands mentioned in the second section of this act. All of said Commissioners shall be appointed in the manner provided by an act entitled "An act to provide for the opening of Washington Park, on Fort Greene, in the city of Brooklyn," passed April 27, 1847, except that such Commissioners shall be appointed by the Supreme Court of the Second Judicial District, at any Special Term thereof, and all other proceedings in any Court contemplated by this act shall be had in said Court; and in case of the death, resignation, disqualification or refusal to act, of either of said Commissioners, it shall be lawful for the said Court, at any General or Special Term thereof, on application, as in said act provided, and from time to time, as often as such event shall happen, to appoint any other discreet and disinterested person, being a citizen of the State of New York, in the place and stead of such Commissioner so dying, resigning or refusing to act; and said Commissioners shall proceed to discharge the duties of their appointment, and to complete their estimate and award, as soon as conveniently may be; and shall, if practicable, file their final report in the office of the Clerk of the county of Kings within twelve months of the date of their appointment.

§ 5. It shall be competent and lawful for a majority of each of said Board of Commissioners designated, as aforesaid, to perform the trust and duties of their appointments, and their acts shall be as valid and effectual as the acts of all the Commissioners so to be appointed, if they had acted therein, would have been; and in every case the proceedings and decisions of a majority in number of either of said Boards of Commissioners acting in the premises, shall be as valid and effectual as if the said Commissioners appointed for such purpose had all concurred and joined therein.

§ 6. The Commissioners herein provided for, in relation to the taking and value of the lands mentioned in the first section of this act, shall make just and true estimate of the value of the lands mentioned in said first section, and of the loss and damage to the respective

owners, lessees, and parties and persons respectively entitled to or interested in the same, together with the tenements, hereditaments, and appurtenances, privileges or advantages to the same belonging or in any wise appertaining, by and in consequence of relinquishing the same to the said city of Brooklyn; and in making such estimate they shall not make any deduction or allowance for, or on account of any supposed benefits or advantages to be derived from taking said lands as public places, or in consequence thereof, and the amounts so estimated, when duly confirmed, shall be paid as hereinafter in this act provided. But after the cost of the said lands shall have been determined by the confirmation of the final report in relation thereto, it shall be the duty of said Commissioners to apportion such part of said cost as they may deem equitable, and not exceeding twenty per cent. thereof, among the lands outside of said park, which they shall deem to be benefitted thereby, and in proportion to such benefit; and said Commissioners may extend such apportionment to such distance from said park as they may deem equitable and proper within the Western Fire District of said city of Brooklyn. And whenever their report in relation to such apportionment shall be completed, they shall file the same with the Clerk of Kings county, and thereupon proceedings may be had to correct or confirm the same, as in this act provided. And after the confirmation of any final report of said Commissioners making such apportionment, the one-twentieth part of the amount thus apportioned shall be assessed annually upon the lands in said city affected thereby, and shall be included annually in the taxes to be levied thereon, and shall be levied and collected like other taxes upon property in said city; and the proceeds thereof shall be paid over to the Commissioners of the Sinking Fund of said city, to be by them applied to the redemption of the bonds of said city, to be issued by virtue of this act.

§ 7. The Commissioners appointed in relation to the taking and value of the lands mentioned in the second section of this act, shall in like manner make just and true estimate of the value of the lands in said second section mentioned, and of the loss and damage to the respective persons, owners thereof, or entitled to or interested in the same in any wise, in consequence of relinquishing the same to the county of Kings; and the value of the lands so taken and mentioned in the second section of this act, and the amount of compensation so estimated by the Commissioners to the owners thereof, shall, when confirmed, as herein provided, be paid by said county of Kings to the parties thereto respectively entitled, and for the purpose of making such payment, the said county may issue and dispose of its bonds to such amount as may be necessary, in such form and manner as the Supervisors thereof may direct.

§ 8. Payment of the damages awarded by the Commissioners provided for in this act, in any report made in pursuance hereof, shall become due and payable, and shall be paid immediately upon the confirmation of any such report of said Commissioners in the premises.

§ 9. Said Commissioners and any party being owner of or interested in any of the lands mentioned in this act, may agree upon the value thereof, and upon the amount of damages and compensation to

be awarded therefor, and said Commissioners may make special reports in relation to any matters so agreed upon; and any such special report may be filed, and proceedings may be had to confirm the same, and the same may be confirmed in the same manner and with like effect as is provided herein in relation to other reports of said Commissioners; and upon the confirmation of any such special report, the amount of the awards thus confirmed shall be paid in the same manner as if such awards had been made in a general report of said Commissioners, and duly confirmed.

§ 10. Before proceeding to discharge any of their duties, the Commissioners shall respectively take and subscribe an oath in writing, before some officer, authorized by law to administer oaths, honestly and faithfully to discharge the duties which shall devolve upon them in pursuance of this act, which oath shall be filed in the office of the Clerk of the county of Kings. Said Commissioners shall proceed, as soon as may be after their appointment, to discharge the duties of their trust, and to make and complete their estimates, and awards and reports, as herein-before provided; and every estimate, award and report so made shall be signed by at least a majority of said Commissioners, and filed in the office of the Clerk of the county of Kings, and notice thereof given to the Counsel of the Corporation of said city of Brooklyn. Within twenty days after receiving such notice of the filing of any report of said Commissioners, said Corporation Counsel shall give notice by publication for ten days in two daily papers of said city, that he will at the then next ensuing Special Term of the Court aforesaid, and at the time and place to be specified in such notice, present such report for confirmation; and if said Corporation Counsel shall not, within the time above prescribed, cause such report to be presented for confirmation, then such notice may be given, and said report may be presented for confirmation, as above prescribed, by any party whose lands are to be taken, and to whom compensation is estimated and awarded by such report; and thereupon all such proceedings as are provided for in the fifth section of an act entitled, "An act to provide for the opening of Washington Park, on Fort Greene, in the city of Brooklyn," passed April twenty-seventh, eighteen hundred and forty-seven, shall be had for the confirmation of said report, or for the revisal and correction thereof, until a report shall be made or returned in the premises, which the Court shall confirm; and any such report, when so confirmed by the said Court, shall be filed in the office of the Clerk of the county of Kings, and shall be final and conclusive upon the said city of Brooklyn, and upon the owners of and persons interested in the lands and premises mentioned in said report, and also upon all other persons whomsoever; and upon the confirmation of any such report, and upon payment being made to the owners of the lands in such report mentioned, or upon their assent thereto by deed duly executed, the said lands shall vest forever in the said city of Brooklyn for the uses and purposes in this act mentioned; and whenever and as often as the title shall have been perfected in said city to the lands embraced in the park and public place provided for in the first section of this act, the

Common Council of said city shall forthwith declare and establish said lands to which the title shall have been thus perfected, as a public park, or place, as herein provided, (and may make any improvements thereon, as such park and public place, which they may deem proper). In case any party, officer or person who is by this act directed or authorized to apply for the appointment of Commissioners, or for the confirmation of any report made by such Commissioners, shall neglect to make any such application in the manner and within the times in this act limited, such application may be made by any resident of the city of Brooklyn, being an owner of real estate in the said city, and the Court shall proceed thereon as if the same had been made by the person or officer hereinbefore authorized and directed to make the same.

§ 11. For the purpose of paying for the land mentioned in the the first section of this act, and for the regulation and improvement of the same as in this act provided, the bonds of the city of Brooklyn, to such an amount as shall be necessary for that purpose, shall be issued by the Mayor, Comptroller and Clerk of said city, from time to time, as the same shall be required for the purposes aforesaid; which bonds shall be issued in the manner, and shall be in the form of the bonds issued by said city under the provisions of an act entitled "An act to provide for the supply of the city of Brooklyn with water," passed February eleventh, eighteen hundred and fifty-seven, except as herein otherwise provided; and said bonds shall be payable in not less than forty-five, nor more than sixty, years from the date thereof, and shall bear interest at the rate of six per cent per annum, payable half-yearly, on the first day of January and July, in each year; and the said bonds and the proceeds of the sale thereof, shall constitute the fund for paying the costs of the lands in the first section of this act mentioned, and for the improvement of the same. And as the said bonds are from time to time issued, the Mayor, Comptroller and Clerk shall each cause to be kept in his office, in a book to be provided for that purpose, a true and correct statement and account of each and every bond by him executed, showing the number of each bond and the date and amount thereof, and the time when due, and such book shall be open for public inspection, and shall be delivered by them to their successors in office.

§ 12. The bonds of the city of Brooklyn, which shall be issued by virtue of this act, may be used by said city, or by the Treasurer thereof, at their par value, in paying any amounts which said city shall have become liable to pay for compensation or damages awarded under this act; or the same may be sold at public or private sale, or by subscription, and on such terms as the Common Council of said city may think proper; and the proceeds of all such sales shall be paid over to the Treasurer of said city, or said Treasurer may, with the concurrence of the Mayor and Comptroller of said city, pledge any of said bonds for money borrowed temporarily, at a higher rate of interest, not exceeding seven per cent. per annum, if they shall deem it expedient and necessary so to do.

§ 13. The property of the city of Brooklyn, and the lands author-

ized to be taken by the first section of this act as a public park and place, are hereby pledged for the payment of its bonds to be issued by virtue hereof.

§ 14. In order to pay the interest upon the bonds hereby authorized to be issued by said city, there shall be added to the general tax, for the city of Brooklyn at large, in the year eighteen hundred and sixty-two, and yearly thereafter, and levied and collected therein, as hereinafter specified, such sum of money in each of said years shall be sufficient to pay the interest upon the bonds issued by virtue of this act; and from and after the year eighteen hundred and sixty-five, there shall be added to the general tax for the city of Brooklyn at large, and levied and collected, as aforesaid, in addition to any amount so required, to pay the interest upon said bonds, a sum equal to one-half of one per cent. upon the total amount of bonds which shall have been issued in pursuance of this act; and from and after the year eighteen hundred and seventy-five, there shall be in like manner levied and collected, in each year, and in addition to the amount required to pay the interest aforesaid, a sum equal to one per cent. upon the total amount of bonds which have been issued in pursuance of this act; and from and after the year eighteen hundred and eighty-five, there shall be in like manner annually levied and collected, in addition to the interest aforesaid, a sum which, together with the amounts above required to be levied and collected, and the accumulations thereof, will, with its accumulations, be adequate to pay and discharge the bonds to be issued under this act by the maturity thereof, which said several sums shall be, from time to time, and each year, paid over to the Commissioners of the Sinking Fund of the city of Brooklyn, to be held and managed by them, and shall be applied to the payment of the interest upon said bonds as it shall become payable, and to the full and final redemption of said bonds, and for no other purpose. And it shall be the duty of the Mayor and Comptroller of the said city to estimate and ascertain the amounts required to be so added to the general tax, by virtue of this section, and to transmit a statement of the same in each year to the Board of Supervisors of the county of Kings, in time to have such amount included in the general tax of said city, for that year; and it shall be the duty of said Supervisors to cause such amount to be included in such general tax. And said Supervisors shall also annually provide by tax for the payment of the principal and interest of the bonds to be issued by the said county of Kings, by virtue of this act. And in making the levy of taxes in this section prescribed, the said Supervisors shall so apportion and levy the same, as that all sums of money which shall be levied for the purpose of paying principal and interest of the bonds which may have been issued on account of the purchase, improvements and ornamentation of the lands comprising the said Prospect Park, shall be levied and collected exclusively upon and from the taxable property within the first twelve wards of said city.

§ 15. The Commissioners appointed by virtue of section four of this act shall have authority to employ surveyors and to use any map on file or belonging to said city, and to cause maps to be made

as may be necessary; and said Commissioners may be allowed a compensation of three dollars per day for their time actually employed in discharging their duties as such Commissioners; and all such compensation, and the necessary expenses of the Commissioners in discharging their duties, shall be allowed on taxation by the Court aforesaid, and paid by said city of Brooklyn, and shall be added to and form a part of the cost of the said park.

§ 16. The said Prospect Park shall be under the exclusive control and management of a Board of Commissioners, to consist of seven persons, who shall be named and styled "The Commissioners of Prospect Park;" a majority of said Board of Commissioners in office for the time being shall constitute a quorum for the transaction of business, and no action of said Board shall be final or binding, unless it shall receive the approval of a majority of the said Board, whose names shall be recorded in its minutes.

§ 17. James S. T. Stranahan, Thomas H. Rodman, E. W. Fiske, R. H. Thompson, Thomas G. Talmage, Stephen Haynes, and Cornelius J. Sprague, are hereby appointed, and shall constitute the first Board of Commissioners of Prospect Park; they shall hold office as such Commissioners for three years from the passage of this act. No member of said Board shall receive any compensation for his services, except the President or Treasurer, but each Commissioner shall nevertheless be entitled to receive for his personal expenses, in visiting and superintending said park, a sum not exceeding three hundred dollars per annum. In case of a vacancy, the same may be filled by the remaining members of the Board, for the residue of the term then vacant; and all vacancies occasioned by expiration of the terms of office shall be filled by the Mayor, by and with the advice and consent of the Common Council of said city.

§ 18. The said Board shall have full and exclusive power to govern, manage and direct the said park; to lay out and regulate the same; to pass ordinances for the regulation and government thereof; to appoint such engineers, surveyors, clerks and other officers, except a police force, as may be necessary; to prescribe and define their respective duties, and authority; to fix the amount of their compensation; and generally in regard to said park, they shall possess all the power and authority now by law conferred on, or possessed by the Common Council of said city, in respect to the public squares and places in said city.

§ 19. It shall be a misdemeanor for any Commissioner to be directly or indirectly, in any way pecuniarily interested in any contract or work of any kind whatever, connected with said park, and it shall be the duty of any Commissioner or other person, who may have any knowledge or information of the violation of this provision, forthwith to report the same to the Mayor of the city of Brooklyn, who shall present the facts of the case to any Judge of the Supreme Court of the Second Judicial District. Such Judge shall hear, in a summary manner, such Commissioner in relation thereto, and any evidence he may offer, and if, after such hearing, he shall be satisfied of the truth thereof, and shall so certify to the Mayor, he shall immediately remove the Commissioner thus offend-

ing. Every Commissioner shall, before entering upon the duties of his office, take and subscribe the oath prescribed by the Constitution of the State, which oath shall be filed in the office of the Clerk of the city of Brooklyn.

§ 20. Said Board of Commissioners for the government of said Park shall, in the month of January of every year, make to the Common Council of said city a full report of their proceedings, and a detailed statement of all their receipts and expenditures.

§ 21. Whenever the city of Brooklyn shall have become vested with the title to said park, as in this act provided, it shall be lawful for the Commissioners of said park to let from year to year any buildings and the grounds attached thereto, belonging to said city, which may be within the limits of said park, until the same shall be required for the laying out and regulation thereof, when the said buildings shall be removed, except such as may be used for the purposes of said park.

§ 22. Whenever the said city shall have become vested with the title to said park, as aforesaid, said Commissioners may sell any buildings, improvements, and other materials being within the limits of said park, and belonging to said city, which, in their judgment, shall not be required for the purposes of the said park, or for public use, the proceeds of which shall be deposited to the credit of the Commissioners, and devoted to the improvement of the park.

§ 23. No plan for the laying out, regulation and government of said Prospect Park, shall be adopted or undertaken by the Commissioners thereof, of which the entire expense, when funded, shall require for the payment of the annual interest thereon a greater sum than thirty thousand dollars per annum; and bonds shall be issued, sold and disposed of as directed in this act, for the purpose of providing such sums of money as shall be from time to time required by said Board of Commissioners having the government of said park, subject to the limitations in this section prescribed.

§ 24. The money raised from the bonds in the preceding section mentioned shall be deposited, as fast as the same shall be realized, to the credit of said Board of Commissioners, in such banks of the city of Brooklyn as shall be by said Board designated; such banks shall allow such interest upon such deposits as may be agreed upon with said Board, and shall open and keep an account therewith. All moneys received by said Commissioners shall be immediately deposited with such banks to the credit of their account, and no moneys shall be drawn therefrom by said Board of Commissioners except upon a warrant signed by at least a majority of said Board, and all receipts and vouchers shall be filed in the office of said Board.

§ 25. None of the said Commissioners, nor any person, whether in the employ of said Commissioners or otherwise, shall have the power to create any debt, obligation, claim or liability, for or on account of said Board, or the moneys or property under his control, except with the express authority of said Board, conferred at a meeting thereof duly convened and held.

§ 26. The office of either of said Commissioners who shall not attend the meetings of the Board for three successive months, after having been duly notified of said meetings, without reason therefor satisfactory to said Board, or without leave of absence from said Board, may be by said Board declared vacant.

§ 27. Real or personal property may be granted, devised, bequeathed or conveyed to the said city of Brooklyn, for the purposes of improvement or ornamentation of said park, or for the establishment or maintenance within the limits of said park, of museums, zoological or other gardens, collections of natural history, observatories, or works of art, upon such trusts and conditions as may be prescribed by the grantors or donors thereof, and agreed to by the Mayor and Common Council of said city; and all property so devised, granted, bequeathed or conveyed, and the rents, issues, profits and income thereof shall be subject to the exclusive management, direction and control of the Commissioners of the park.

§ 28. It shall be lawful for said Board of Commissioners, at any meeting thereof, duly convened, to pass such ordinances as they may deem necessary for the regulation, use and government of the park under their charge, not inconsistent with the ordinances and regulations of the city of Brooklyn, or with the provisions of this act; such ordinances shall, immediately upon their passage, be published for ten days in two daily papers published in said city.

§ 29. All persons offending against such ordinances shall be deemed guilty of misdemeanor, and shall be punished, on conviction before any court of competent jurisdiction in the county of Kings, by a fine not exceeding fifty dollars, and in default of payment, by imprisonment not exceeding thirty days.

§ 30. All acts and parts of acts inconsistent herewith are hereby repealed.

§ 31. This act shall take effect immediately.

On the passage of this law, the Common Council of the city of Brooklyn passed a resolution endorsing the action of the Legislature as being in accordance with the generally expressed wishes of the citizens.

Under the provisions of this act of the Legislature, the undersigned Commissioners named therein, formally organized the board by the election of James S. T. Stranahan, as President, and R. H. Thompson, as Secretary.

The location of Prospect Park having been selected and fixed by law, to the undersigned were confined its control and management, with power to lay it out and regulate it. In entering upon the discharge of duties so honorable and so important, the Commissioners determined that the whole subject, in all its general aspects, and in all its details, should receive their most careful and deliberate consideration; and,

while they felt reluctant in any way to delay the progress of so important a work, urged on by the great mass of the citizens of Brooklyn, they deem it but common prudence, and eminently due to the taxpayers of the city, that their actions should be cautious and their movements well considered. Much attention was given to the subject of the boundaries, and an earnest investigation as to whether those designated in the act, were the best which, under the circumstances, could be adopted. They directed their inquiries also to the practical bearing of the laws relating to the park, and endeavoring to ascertain whether their provisions were sufficiently guarded for the interests of the city, and at the same time ample enough for the purposes of the contemplated improvements.

As the law expressly forbids the adoption of "any plan for the laying out, regulation and government of said park, of which the entire expense, when funded, shall require for the payment of the interest thereon, a greater sum than $30,000 per annum," it became necessary for the Commissioners, at the very commencement of their duties, to obtain some definite information on the subject of the ultimate cost of the improvement. To this end, the services of an accomplished and experienced engineer were secured, and instructions were given for minute and accurate surveys, general plans and careful estimates of the entire work.

The report of the engineer, to which the careful attention of the citizens of Brooklyn is earnestly invited, is embodied herein and submitted as a part of the proceedings of the Commissioners.

The application for the appointment of Commissioners of Estimate and Assessment is now pending in the Supreme Court. Some question having arisen as to the constitutionality of the law in relation to this subject, the Commissioners suggest the propriety of such an alteration in the act as will meet the real or supposed constitutional difficulty.

This delay on the part of the Supreme Court need not be regarded by the friends of the park improvement as in any way injurious or detrimental. It has given to the Improvement Commissioners ample opportunity to consult with the property holders and taxpayers of the city, from whom they

have obtained much valuable information and many important suggestions.

The result of the labors and investigations of the Commissioners during the year fully satisfies them of the practicability of carrying out, by gradual progress, all the improvements of the park, within the sum limited by law for that purpose. And from an intimate knowledge of the grounds, and a careful study of the whole subject of laying them out and of improving them, they are fully convinced of the great capabilities and superior advantages of the designated location for a park or pleasure ground, worthy of the city of Brooklyn—the third city, in point of population, in the Union—and if not holding the same relation to other cities for the variety and beauty of its public and private edifices, yet, for the intelligence, morality and enterprise of its citizens, and for its remarkable healthfulness, it challenges a parallel with any city of equal population in the world. To preserve this high distinction, and to perpetuate and increase its attractions as a city of private residences, is one of the objects contemplated by the establishment of the park.

Already a population of three hundred thousand demands space for exercise and recreation. How much more, when the population of the city has doubled, will a provision of this nature be required, to furnish to all the constant means of peaceful and healthful enjoyment, and to aid in the cultivation of cheerful obedience to law, and the general promotion of good order among its citizens.

The Commissioners need hardly say that, in the prosecution of their duties, their constant aim will be to meet the reasonable wishes of the citizens of Brooklyn who projected this great and beneficent enterprise. They will only add, that any delay in appropriating the lands must necessarily result in an increased expenditure to the city. The purchase of the entire area may now be made at reasonable rates, and in view of the rapidly increasing value of suburban property, the outlay may be regarded as an advantageous investment.

The Commissioners have incurred no other expenditures during the year than such as resulted from the employment of the Topographical Engineer.

A vacancy in the Board, occasioned by the resignation of Thomas H. Rodman, was filled by the appointment of Thomas McElrath.

All which is respectfully submitted,

JAS. S. T. STRANAHAN,
E. W. FISKE,
R. H. THOMPSON,
THOMAS G. TALMAGE,
STEPHEN HAYNES,
CORNELIUS J. SPRAGUE,
THOMAS McELRATH,
Commissioners.

PROSPECT PARK.

VIEW FROM THE RESERVOIR LOKING EAST—1860.

PROSPECT PARK.

REPORT

OF

EGBERT L. VIELE, ESQ.

BROOKLYN, January 15th, 1861.

To the Commissioners for the Improvement of Prospect Park:

GENTLEMEN—

I beg leave to submit herewith my Report upon the Topography and Improvement of Prospect Park, together with the accompanying Maps and Drawings.

Very respectfully,
Your obedient servant,
EGBERT L. VIELE.

REPORT.

TOPOGRAPHICAL DESCRIPTION.

The elevated ridge which is the distinguishing feature in the topography of the western portion of Long Island, and which, from the depressed character of the adjacent lands, commands a very extensive tract of country, possesses in its entire extent no other point from which the eye can embrace so wide a field of marine and inland scenery, as that division of it which has been selected for and devoted to the purposes of public recreation, and known as the "Prospect Park of Brooklyn."

The boundaries of the park, as defined by the Act of the State Legislature, passed April 17th, 1860, are as follows: Beginning at the intersection of Warren street and Washington avenue; thence running southerly along Washington avenue, to the city line at Montgomery street; thence southwesterly, in a straight line to a point one thousand feet easterly in a straight line from the intersection of Ninth street with the city line; thence to the intersection of the city line and Ninth street; thence northwesterly along Ninth street to Tenth avenue; thence northerly along Tenth avenue to the northerly side of Third street; thence northwesterly along Third street to Ninth avenue; thence northerly along Ninth avenue to Flatbush avenue; thence along Flatbush avenue to Vanderbilt avenue; thence along Vanderbilt avenue to Warren street; thence easterly along Warren street to Washington avenue, at the place of beginning. The space bounded by these lines is as diversified in surface and vegetation as any spot, containing the same area, can possibly be. Nearly in the center lies the new Distributing Reservoir, from which a panoramic view is obtained of the cities of New York and Brooklyn, the inner and outer harbors, with their fleets of ships and steamers, a

large portion of New Jersey, Staten Island and Long Island, with the Atlantic ocean beyond, stretching far away in the distance. Within the park itself, a succession of beautifully-wooded hills and broad green meadows, interrupted here and there by a natural pond of water, offers features of attraction which require but little aid from art to fit it for all the purposes of health and recreation, to which it is to be devoted. Nearly one half the area is wooded with trees of large growth, many of them noble specimens of the oak, maple, hickory, dog-wood, chestnut, and other varieties, securing the immediate benefit of shaded drives. A fine level space of sufficient extent and almost ready for a parade-ground, and sheltered valleys where every description of plants and trees may be successfully cultivated, complete the advantages of a site so judiciously and providently selected. The most elevated point within the enclosure is the crest of the escarpment which surrounds the new Distributing Reservoir; this is two hundred feet above the level of the sea, and not only overlooks the entire area of the park, but commands the finest view which can be obtained from the grounds. The ridge upon which it is situated forms the axis of the park, extending through the entire length, and terminating in a gradual slope at the northern extremity. A valley on the east of this ridge extends to the easterly side of the park, and a valley on the westerly side is succeeded by a low range of wooded hills, which form the western boundary. Flatbush avenue, one hundred feet in width, runs diagonally through the park, dividing it into two portions, which might be regarded as a serious blemish to the beauty of the finished park, were it not for the fact that the peculiarity of its location obviates the necessity of any other transverse road to accommodate the traffic between the city and the suburbs; thus securing the uninterrupted possession of the remainder of the grounds for park purposes. The northwesterly boundary along Washington avenue, is perhaps defective, inasmuch as that avenue does not cross the city blocks at a right angle, and would thus prevent the lots on that portion of the park from having a square front. The extension of the park to Classon or to Franklin avenue, or to a new avenue between those two, would obviate this very serious objection, while at the same time the topographical character of the ground in that direc-

tion is such as would add materially to the beauty of the interior design, as well as to the exterior view. Any extension of the area in that direction could readily be counterbalanced, if desirable, by the retrocession of the northerly boundary from Warren to Baltic street. As this matter has been laid before the Commissioners by a Committee representing a large number of property owners, I have deemed it proper to exhibit the proposed change on the accompanying plan of the park.

HISTORICAL ASSOCIATIONS.

In addition to its interesting topographical features, these grounds are consecrated by historic associations, which should be a strong argument for preserving them in their original character. In the very heart of the park there is a quiet dell, which no one can enter without a feeling of pleasure, called forth by its sylvan beauty. Tranquil as it now appears, this spot was once the scene of a desperate and bloody conflict, which, in its intrepid valor, may well rank among the most gallant deeds enacted by the American army, during the struggle for independence. Four hundred men, composing the Maryland and Delaware battalions, under General Sullivan, and forming the center of the little army which had been stationed on the heights to prevent the passage of the British upon New York, defended this pass, under a galling fire of artillery, from sunrise to 12 o'clock on the memorable 27th of August, 1776; and never would have yielded their ground, though it should have become a new Thermopylæ, had they not been surrounded and attacked in the rear by the enemy, who had turned the left wing of the American position.

"Hemmed in and entrapped between the British and Hessians, and driven from one to the other, the Americans fought bravely and desperately; some were cut down and trampled by the cavalry, others bayoneted without mercy by the Hessians; some rallied in groups, and made a brief stand with their rifles, from rocks or behind trees. The whole pass was a scene of carnage, resounding with the clash of arms, the tramp of horses, the volleying of fire-arms, and the cries of the combatants. We give the words of one who mingled in the fight, and whom we have heard speak with horror of the sanguinary fury

with which the Hessians plied the bayonet. At length some of the Americans, by a desperate effort, cut their way through the host of foes, and effected their retreat, fighting as they went; others took refuge among the woods and fastnesses of the hills, but a great part were either killed or taken prisoners." *

Let then this spot, consecrated by the blood of patriots, be preserved, if for no other reason than that in recalling the memories of a glorious past, it may incite new hopes for a more glorious future.

PLAN OF IMPROVEMENT.

In laying down a plan for the improvement and embellishment of the area which has been described, it seems barely necessary to say that the natural topographical features should be the basis of that improvement. For, laying aside the question of the greater expense which any other method would incur, the infringement upon good taste, and upon that regard for the beauties of nature possessed by every cultivated mind, which would result from a display of artificial constructions, would defeat the primary object of the park as a rural resort, where the people of all classes, escaping from the glare, and glitter, and turmoil of the city, might find relief for the mind, and physical recreation—the park, under such circumstances, becoming a mere place where the excitements of the town were continued in another form, both alike destructive of that repose of the mind so essential to the health of the body. Besides, architectural constructions are too often matters of fashion, as we see in the constant destruction of well-built edifices, to make room for a later style of building; and, although our artificial erections may be copies of the most approved designs, pleasing to the eye in their freshness and novelty, they soon lose these, their chief merits, and in a few years, probably, are removed, to make way for the further conceits of some new aspirant for notice.

While on the other hand nature in its beauty and variety never palls upon the senses! never fails to elicit our admiration; whether displaying its wild grandeur in the vast solitudes of the forest, or throwing its peaceful, clustering shadows

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* Irving's Life of Washington.

around the domestic altar; whether bursting the fast of winter, it opens its buds in spring-time, or yielding to the chilling blasts it scatters its autumn leaves—it conveys in all its phases and through all its changes no emotions which are not in harmony with the highest refinement of the soul.

When, with the skillful hand of UNPERCEIVED ART, its blended beauties are made more harmonious by the cautious pruning of trees, the nice distribution of flowers and plants of tender growth, the introduction of the green slope of velvet lawn, and the silver gleam of water, and then through public munificence all this is spread out in the heart of the busy city —at the feet of the weary toiler—it supplies a void in his existence and sets in operation the purest and most ennobling of external influences, which gather strength for food as the mind becomes more refined and more appreciative in the contact.

The substitution of art for nature in the improvement of public grounds had its origin in an age, when the beauties of nature were unknown and unfelt, and among a people whose worship of art was a national characteristic, and who regarded an artistic display as an essential accompaniment of imperial grandeur.

A later and higher degree of civilization has developed that love for the real beauties of nature which has stamped itself upon the English character, which is modifying the old system pursued in France, and which is gaining such rapid progress in this country. The overthrow of the ancient ideas was not accomplished without an effort, and not until some of the finest minds of Great Britain had been enlisted in the cause, and had shown the folly of one system and the beauties of the other.

To return to the old method now would be to abandon all progress and to substitute the obsolete for the true. If the ancient style should become the orthodox, it will be the death blow of rural improvement in this country on the score of expense alone, since the very nature of the system is to know no limit in expenditure. One construction begets another, until nature is obliterated and art becomes supreme—rural simplicity gives place to extravagant pretensions, and we find too late that we have destroyed the very thing we sought to create.

Since then the dictates of good taste and of economy prescribe that the natural features of the surface should be the

basis of any plan of improvement; the next step is the adaptation of those features to the purposes of a pleasure ground for the people. And here, again, I cannot resist the reflection that true taste in any art consists more in adapting *tried expedients to peculiar circumstances*, than in that inordinate thirst after novelty—the characteristic of uncultivated minds.

The rules which govern the improvement and embellishment of ground are as well defined as those which regulate the duties of any other profession or occupation; and an innovation upon these rules, instead of being an indication of genius, shows rather the absence of it, and the want of a correct knowledge of the subject. It is the way in which these rules are applied to the varieties of surface, not the exhibition of absurd novelties, which gives that variety in the landscape, which we look for in a skillfully improved park.

Among these rules are the following: First, studiously to conceal every appearance of art, however expensive, by which the scenery is improved; secondly, carefully to disguise the real boundary, however large or small the area; thirdly, to hide the natural defects and to display the natural beauties to the utmost advantage; fourthly, to obtain from the most favorable points the greatest possible extent of view, and to conceal all objects which limit or obstruct the view; fifthly, by so blending all the parts, that while the beauties of each are distinctly visible, there are no abrupt contrasts painful to the eye, and destroying the symmetry of the whole; thus securing that unity and harmony so essential to the perfection of the design.

The boundary may be successfully disguised by an irregular belt of trees along the exterior line, and the view as a general thing being limited by this exterior line, it follows that its extent is diminished as we approach the centre, since instead of having one broad view, with the necessary distance to complete the landscape, we divide the view in two, and have an incomplete one on each side. Hence, the avenue of communication which is intended to develop the principal features of the park, should be located as near to the exterior line as the character of the ground and other circumstances will admit. An additional reason for which is found in the greater extent of drive which is thereby secured—an important consideration where the area

is limited, as in this case. These general principles, modified by the character of the ground and the recognized necessity of adapting the park to the wants and pleasures of all classes of the community, have determined the outline of the plan which accompanies this report.

The entrances have been selected at the corner of Flatbush and Vanderbilt avenues, at the corner of Ninth avenue and Third street, at the corner of Washington avenue and Warren street, at the corner of Classon and Washington avenues, at the south-eastern angle, and at the intersection of Flatbush avenue with the easterly line, as being the most ready points of access from the city. Should the park be extended as is proposed, there would be no alteration of the design, excepting in the improved location of the roads and walks in the north-easterly portion of the grounds.

I have considered the main entrance to the park to be located at the corner of Flatbush and Vanderbilt avenues, the former being a broad, diagonal avenue, passing through the densely populated portion of the city, and intersecting several other principal avenues and many principal streets, would naturally be the route selected by many citizens to reach the park.

From the principal entrance, the main drive takes a northerly direction, penetrating at once into the seclusion of the grounds. To the left is the excluding belt of trees, which it alternately enters and skirts. On the right, a succession of wooded hills, separated by picturesque valleys, rise, until they culminate at Mount Prospect, the highest elevation in the park. This last point is concealed by judicious planting, until by a gradual and almost imperceptible ascent, the road reaches the summit, when the extensive landscape bursts upon the view. Here a broad esplanade affords room for a reasonable number of vehicles to remain, without interruption to those which are passing. The road here divides to the east and west; the latter crosses Flatbush avenue, by a simple but substantial viaduct, and skirting the western boundary reaches "The Parade" at First street, disclosing in its route a fine interior view.

It may be objected that a military display destroys, in a measure, the needed seclusion of a park; but, happily, the topography of the site selected is such as to confine the spectacle

to its immediate locality; while to exclude so large a portion of the public from the advantages to be derived from the park, would be to defeat one of its leading objects. This same ground may of course be used for all kinds of out of door sports. A space sufficient for all these purposes is provided; and the green, level lawn will, in itself, add much to the general beauty of the landscape. At the same time, the gentle eminences by which it is surrounded, will afford admirable positions for spectators. In the finished plan, I have no doubt that this will prove one of its most interesting and attractive features. At the southerly extremity of "The Parade," the road enters a wooded valley, where it meets the westerly entrance; thence sweeping around the re-entering angle at Third street, it continues its course through the beautifully wooded westerly border, until it debouches at "The Lake"—a fine sheet of water, the sources of supply of which, from the interior of the grounds, it is believed will prove unfailing.

Crossing the head of "The Lake" by a rustic bridge, the road descends into the easterly valley—a slightly undulating plain, partly wooded and partly lawn—where it is proposed to locate "The Botanical Garden." Its position, sheltered from the north and with a southern exposure, together with its well drained alluvial soil, admirably adapt it for this purpose. The beauty and utility of such a feature within the park cannot be questioned. Whether the improved cultivation and careful development of indigenous and exotic trees and plants shall be placed in the hands of an independent association of citizens, like the Horticultural Society, the space being set apart for this purpose, or whether this shall form one of the duties of the Commissioners, is a question not germain to this report to discuss. I earnestly hope, however, that in one way or the other, this desideratum may be accomplished. It cannot fail to prove of great value and importance to many, while it will assuredly be a matter of interest to all.

Leaving "The Botanical Garden," the road enters "The Forest," and passing under Flatbush avenue into "The Glen," where, if in the plantation the evergreen should be made to prevail, there will be produced a variety and novelty, if not a grandeur, especially in the winter season, exhibiting the finest possible effect. From "The Glen" the road ascends to

the esplanade, or continues on the circuit to the main entrance. An intersecting road from "The Lake" and "The Forest" passes through "The Battle Pass," and meets the main drive at "The Parade." A side road for equestrians, and a walk for pedestrians, accompany the main drive. Certain minor walks and other details are shown on the plan, but these of course are incidental and subordinate to the leading features of improvement. Rustic seats and arbors, where interior views or shaded retreats shall indicate, winding paths through wooded dells, of which there are a number, miniature lakes where the topography and supply of water will permit—all these follow in the progress of the improvement.

"The Plan," as sketched, is believed to be consistent with the character and situation of the ground, to contain every feature which it is desirable to provide within the area, and to require for its execution a sum much below the value of the results attained.

Flatbush Avenue.—This avenue, as has been stated, runs diagonally through the park, and is excluded from its limits, being reserved as a means of transit to the suburbs. It may nevertheless be made to form a striking feature in the general design of improvement. Its peculiar location is such that it opens a view through Brooklyn, of a portion of the harbor—and in the other direction, through Flatbush, of the ocean. By planting a double row of trees on each side, it will form a fine promenade, while the trees will soon hide from view the disagreeable accompaniments of a traffic road. If the cobble-stone pavement with which it is now paved could be exchanged for a smoother material, it would have the effect to diminish the noise, which, from the character of the travel over it, would be inseparable from the use of this kind of pavement.

ENCLOSURE.

The necessity of preserving from mutilation the fine growth of trees now existing, and of affording an opportunity for developing the strength of the soil, requires that the park should at once be enclosed with a substantial fence of some kind. There are a large quantity of boulders which might be prepared for a stone wall; but the time that would be required to remove them from their beds in the earth, and the expense


PLAN
FOR THE IMPROVEMENT OF
PROSPECT PARK
BROOKLYN.
1861.
Egbert L. Vide.
Topg. Engineer.
Washington Avenue
Vanderbilt Avenue.
Flatbush
Ninth Avenue.
Tenth Avenue.
Ninth Street.
Third Street.
Washington Street.
THE FLOWER GARDEN.
THE ESPLANADE
THE PARADE.
THE PRINCIPAL DRIVE
BATTLE ROAD
LAKE ROAD
THE LAKE
BOTANICAL GARDEN
Sackell
Prison St.
President St.
Carroll St.
Montgomery St.
Mc Comb St.
First St.
Second St.
Fourth St.
Fifth St.
Sixth St.
Seventh St.
Eighth St.
Bame St.
Butler St.
Douglass St.
11th Av.

attending their removal to the exterior line, would be such as to render such an application of them objectionable. I think, therefore, that a strong picket fence, well secured by battens, would be the best under the circumstances. This would have the further advantage, that at any point where the progress of the work required it, a portion could be temporarily removed and readily replaced. Such a fence would be the most economical and if subsequently a more substantial enclosure should be decided upon the material would always be of use.

DRAINAGE.

The necessity for the thorough drainage of the entire area of the park is very apparent. The peculiar character of its geological formation renders its successful drainage an interesting and perhaps a difficult problem.

The deposits are composed of strata of sand, clay, gravel and pebbles, in very irregular succession, and showing little parallelism or uniformity; in many places the clay strata being very much distorted. The result of all being a series of rounded hills, some of pure sand, some of sand and clay, and others of pebbles and boulders mixed with clay. In some instances channels seem to have been formed by regular currents of water, while in others deep valleys occur without any approximation to regularity, unless their tendency to a bowl-shape be so construed. The valleys have no outlets, and the water that falls into them either sinks through the soil or collects so as to form pond holes.

All of the depressions have been connected by a series of levels, which will enable me to lay down a system of drainage which, while effective in removing the surplus water from the soil, will, it is believed, afford a sufficient supply to enable its introduction with marked effect in the general landscape.

Besides the removal of the water, which is palpably evident in the form of deposits, thorough drainage, comprehends the carrying off, as rapidly as possible after it has fallen, all the water upon the surface which is not absolutely necessary to the soil. A very small portion of the annual rain-fall is absorbed by the soil or is requisite as a constituent of vegetable life.

All the moisture that remains beyond this required quan-

tity is not only useless, but it is absolutely injurious to fertility, and must be removed to insure the proper growth of vegetation. Many interesting facts have been developed by experience even in this country, although a limited amount of attention has been given to the subject, going to show not only its value in an economic sense, but also its importance in a sanitary point of view. In England, where thorough drainage has been reduced to a science, it has elicited in its gradual progress much lively discussion, and given birth to advocates of different systems; but the great difference of climate, topography, and geological formation between this country and England precludes the blind adoption by us of any system, no matter how successful it may have been proved to be there. For our own guidance we must look first to the character, the quantity and sources of supply of the water which we wish to remove—knowing this, the topography of the ground and the character of the soil will determine the best course to be adopted in removing it.

Of the water on the park a portion flows from the adjoining lands, a quantity is developed in local springs, and some of it is in stagnant deposits of rain water. From these sources a large portion of the soil is saturated, cold and sour. The immediate effect of this water in the soil upon vegetation is, that the soil being stiffened to such an extent the roots of the plants are unable to penetrate it, and are thus stifled in their growth, or it is so cold that the roots are discouraged from extending themselves sufficiently to obtain and afford the proper nourishment to the plants. By the evaporation which is constantly going on the heat of the surface is reduced, especially in spring and autumn, thus shortening materially the period of vegetation. It sours the soil, producing a rank, unhealthy vegetation. It occupies the soil to the exclusion of air, thus depriving the roots of the most important accessory to vegetation. It excludes the rain water, which contains the elements of fertility. It causes surface wasting, and the consequent formation of gullies and fissures. It causes the exhalation from the soil of miasmatic odors, which taint the atmosphere, and have a deleterious effect upon health.

On the other hand, the result of thorough drainage will be to cause the pulverization of the soil by removing the source of

adhesion, and thus facilitating the mechanical extension of the roots and their consequent development. It elevates the temperature of the soil by allowing the free passage of warm rain water, which at the same time deposits the elements of fertility extracted by it from the atmosphere, thus increasing the resources of vegetation. It increases the power of absorption, which enables the soil to support vegetation in the absence of regular rains. It facilitates the passage of air to the roots, supplying the proper amount of oxygen necessary to them. It deepens the soil, giving the roots of trees a firmer hold, and removing them farther from the effects of the sun, and rendering them less liable to freeze in winter. It lengthens the season of vegetation. It prevents surface washing, by allowing the rain water to descend through the soil at once. It renders the surface dry at all seasons, thus excluding the possibility of miasma.

For these reasons, I do not hesitate to recommend as the first step in the work of improvement, the THOROUGH DRAINAGE of the entire area of the park.

We have now to determine the character of the artificial drains which, in connection with the water courses, shall put the ground in a condition to be used for the purposes for which it is intended. Numerous methods have been resorted to with stones, planks, brushwood and open drains, as temporary expedients; but experience has shown that the only effectual, and in the end the most economical method, is that of using porous tile drains. If properly laid, they thoroughly extract the surplus water from the soil, and form no impediment to vegetation. There are three kinds of these tiles—the cylindrical, the horse-shoe, and the sole-tile—the latter being the most effective in its results, and most readily adapted to all circumstances of soil. They are made of different sizes, from two to six inches in diameter, and about a foot in length.

The location, size, distance apart, and depth of drains, has formed a most fruitful subject of discussion in agricultural journals, and whenever the subject has been referred to at agricultural conventions, and meetings of farmers' clubs. As a matter of course, much reliable information, as well as much that is unimportant, has been made public in this way. But the only conclusion that can be arrived at, is, that as all soils

differ in their mineral constituents, so do they differ in their retentive powers; and that while Elkington's system of deep drainage would apply best to one, and Smith's or the Deanston system of shallow drainage would apply better to another, there are still innumerable cases where both would be rejected as inapplicable. Therefore, that course will prove to be the most practical which is based upon a knowledge of the character of the soil in each particular locality.

LOCATION OF DRAINS.

The circumstances which develop themselves as the work progresses will go far to determine the precise location of the drains. As a general rule, the principal drains should follow the lowest depressions, the branches running directly down the slopes. Where the ground is nearly level, they should oblique towards the main drain; and where the ground descends from all points towards a common centre, it would be judicious to run a drain around the edge of the slope to intercept the flow connecting this through the branches with the main drain.

SIZE OF DRAINS.

The size of the drains is governed by the probable amount of water which must be carried off. As the volume of water increases by means of the lateral branches, the size of the drains will require to be increased. Where it is found that the water accumulating, or to accumulate from the different branches, would be greater than could be discharged through the largest sized tiles, a double or even triple row may be laid together in the same trench.

DEPTH OF DRAINS.

The depth of the drains is the most important point connected with the subject, and one which will require the exercise of the most careful judgment. The first care should be to secure a proper outlet, at whatever depth it may be necessary to go to obtain it. To this point there must be a continuous descent of at least one foot in eight hundred, uninterrupted by any depressions, since these would cause an accumulation of deposits, which would in time choke the drains.

The earth in the Prospect Park consists, first, of a few inches of soil, then a layer of clay, varying in thickness, sometimes alternate layers of clay and sand, beneath which is hardpan or drift. In the larger depressions, there is sometimes quicksand beneath this, and scattered through the drift an innumerable quantity of boulders, which defy the precise location of drains, except on the ground itself. As a general rule, the main drains should be from three to four feet below the surface, and the lateral drains from two feet six inches to three feet. An increase of depth adds largely to the expense, especially in the hardpan, where it will cost almost as much to keep the picks sharp as the labor is worth, and in the end adding, perhaps, no benefit to the ground. Still, no question of economy should prevent the drainage being thoroughly accomplished.

The drain should be laid below the frost, and must be below the reach of the sub-soil plow or trenching tools. The fact that a large quantity of soil and fertilizing matter will be added to the present soil, which is rather worthless in its character, will govern somewhat the depth beneath the present surface.

DISTANCE BETWEEN DRAINS.

There exists a positive relation between the depth of drains and their distance apart—the tenacity of the soil being the governing principle. The more retentive soils require the drains to be nearer the surface and nearer together, say from fifteen to thirty feet, while in porous soils the drains should be deeper, and may be further apart, say from twenty to sixty feet. The thorough working or trenching of the ground will obviate the necessity of placing the drains as near to each other as would be required to remove immediately the water now present in the soil. When this, which now occupies the ground so universally, is removed, that which falls afterward would find in the soil, rendered porous by being worked, a ready outlet through these drains, although they would have less immediate effect upon the ground.

The leading principles which have been enumerated, have been followed out in the construction of the plan of drainage. It is not deemed essential to enter into the details of digging the trenches. If not done by contract, the lines of drains

should be laid out, and the gangs so divided that each man shall work with certain tools—one with a spade for the top soil, another with a pick, and another with a shovel, to throw out the loosened earth; beginning at the lower end, and each following the other, deepening the ditch layer by layer, until it has the required depth; the relative expertness of the men deciding which tools they shall use. Trial drains should be run at each separate locality, to ascertain the depth at which the water oozes from the ground into the ditches, thus determining the depth of the drains. It is probable that, in some instances, there will be required small brick cylindrical drains, to withstand the rush of water at certain seasons of the year—the effect of which will be lessened as the portion of the city adjoining the park is built upon.

Upon the plan which has been prepared has been traced the principal streams, with the connections of artificial drains deemed necessary to the thorough drainage of the ground. The positions of these drains will be governed by circumstances; but the general system, as laid down, will remain essentially the same. At some points the drains will be further apart; at others, perhaps, nearer together. It is believed, however, that the scheme covers the maximum amount of expense that will be required for this purpose.

Whether the work should be done by contract or day's labor could be very well decided by letting a small portion of the ground by contract, as an experiment, while a similar portion is undertaken by day's work; the result will soon determine the relative cost of each. Any attempt to arrive at a calculation in any other way would be absurd.

The number of tiles required, as estimated by the plan, will be—

2 inch,	146,300,	costing	(delivered	at the	dock),		$2,194 50
3 "	83,450,	"	"	"	"		1,919 35
4 "	30,450,	"	"	"	"		1,431 15
5 "	6,350,	"	"	"	"		444 50
6 "	12,400,	"	"	"	"		1,190 40
	Total.....						$7,179 90

It is possible that a contract can be made to make and lay

the tiles, and dig and re-fill the trenches, at the following rates:

2 inch	8,867 rods		$9,457 77
3 "	5,058 "		7,552 77
4 "	1,845 "		3,813 94
5 "	385 "		1,087 87
6 "	752 "		2,675 39
	Total		$24,587 74

To which, adding $2,500 for the brick drains which will be required, and $1,250 for the construction of the proper outlets, would make the probable total cost of the thorough drainage of the park, $28,337 74. As this work should be commenced at once, I would recommend that early steps be taken to place the tile on the ground, when the work may be done by contract or day's work, as shall be deemed best.

MANURING.

To insure that fertility which is absolutely essential to the proper development of vegetation, it is necessary that a sufficient quantity of fertilizing matter be added to the soil.

The soil of the Prospect Park contains an excess of clay, and this clay contains an excess of moisture, the consequence of which is, that in damp weather it is formed into a tenacious paste, from which the water will neither evaporate nor drain off. In dry weather it bakes, becoming an almost solid substance, through which the roots cannot penetrate. In very hot, or very cold weather, it cracks open, either breaking the roots or exposing them. It attracts mechanically the nutritive juices essential to vegetation, and does not part with them to the plants.

This kind of soil forms, however, a superior basis for improvement, since, when once thoroughly manured and broken up, it retains its fertility for a long time. Therefore, nothing is required but correct management, to render this the best possible soil for a park. It is of the utmost importance that this branch of the improvements be clearly understood, and properly attended to in the beginning, since it will be impossible to improve its fertility from year to year, as is done with

the ground which is constantly undergoing the process of fructification for agricultural purposes. The greensward, which will constitute the principal feature of the park, the chief element of whose beauty and value consists in its being firm and compact cannot be disturbed by the plow or the spade, to add new fertilizing power to the soil, without destroying it altogether. It is for this reason that we should closely study the constituent qualities of the soil, to know precisely what is absent, that is essential, and what should be added to increase its fertility. In truth, we should aim to attain at once the highest degree of fertility of which the soil is capable. Manure on some soils is unnecessary; on others, indispensable. Soils vary from great fertility to absolute barrenness; and the process of manuring is the artificial application of substances to soils, or their incorporation therewith, in order to increase their productiveness. The application of manures must be regulated accordingly, by a proper knowledge of the soil which is to be fertilized. Chemical analysis has been the means of facilitating this inquiry. Its success has been such that the most barren wilderness could be rendered fertile. The only question necessary to be discussed, therefore, when such a restoration is required, is the simple one of expense.

There are two theories of manures—the humus and the atmospheric; the first being that of Saussure, the last of Liebig. The humus theory regards "vegetable matter of soils and manures as merely applying inorganic matter, in a fluid form, to the roots of plants." The atmospheric theory considers "nutriment to be furnished to plants, and manurial action maintained, only by means of substances which either originally possess, or have eventually assumed an inorganic form."

Whichever theory we assume, the practice is the same. We must first discover the ingredients of a fertile soil; secondly, we must analyze the soil we have to fertilize; thirdly, we must supply, in the unfertile, the ingredients which it lacks, in order to become the same as the fertile. A perfect soil is composed of many ingredients, such as organic matter, silica, alumina, magnesia, lime, oxide of iron, potash, carbonic acid, etc., etc. Consequently, if potash is wanting, potash must be supplied; if magnesia is wanting, magnesia must be supplied, etc.

Organic matter is a *sine qua non* of fertility, but if more

than fifty per cent. be contained in a soil, it becomes sour, and requires manuring. In a cold climate, color should not be forgotten, as a dark soil will absorb heat better than a light one. Plowed fields lose their covering of snow sooner than meadows. In manuring, therefore, care should be taken that the soil assume a dark appearance. Organic matter administers food to plants through their roots; consequently, land which has been long cultivated, and scantily manured, becomes poor, through the absorption of organic matter. Organic matter disappears in two ways:

First.—By sustaining plants, as aforesaid.

Second.—By decomposition through exposure to the atmosphere; therefore, it must be artificially supplied, or the land grows poor.

The best way, when land runs down, is to cultivate crops to be plowed under, such as clover, buckwheat, etc.

The different soils which appear on the earth's surface may be generally classified into three kinds, with their mixtures. They are—

The sandstone; much of which composes poor soil, although many sandstone soils are very good.

The limestone, as a general rule, very good.

Clay.—This soil is impervious to moisture, but usually of good quality; and, by proper skill, may be made most valuable for agricultural purposes.

The soil must be prepared when laboring under difficulties of a local nature.

There are three kinds of manure, viz.: the vegetable, the animal, the mineral.

The Vegetable.—There are many of this kind, some few of which are subjoined. These manures are very important, since, although they are not so energetic, they are certainly cheaper than others.

Clover, buckwheat, etc., etc., turned upside down, make a cheap and effective manure.

Seaweed is also very serviceable, when easily got.

In England, rape dust is used as a manure. This is a powerful manure, and one easily portable, that should claim attention.

The Animal.—This comprises the blood, flesh, bones, hair,

horns, and excrement of animals. It is more powerful than vegetable manure, containing more nitrogen.

Animals that have died from disease, made into a compost, form a manure equal to guano. They are decidedly the best manure, when attainable.

The brain of animals, woolen rags, the waste from wool mills, are considered in England as very valuable for manuring Bones are also excellent.

Of excrement, horse-dung is the best, containing most nitrogen; hog-dung is next; cow-dung is last, its enriching powers being lost on the milk of that animal.

In collecting excrements, care should be taken that the liquid is gathered in a pit or tank. If left there long, it is apt to ferment, and lose its nitrogen in the form of ammonia. In such case, a little sulphuric acid and a few pounds of plaster of paris should be put in. Manure should be protected from the sun and rain. Horse manure, especially, should be immediately covered, and mixed with other manures, or some absorbent earth.

Bird manure (such as guano) is the best. Pigeon dung, and that of ducks, geese, turkeys, etc., are very valuable.

Fish manures are good when they are to be had. Fish manure decomposes so quickly that it ought immediately to be plowed under, or made into a well-covered compost heap.

The Mineral.—Lime.—The best practice is to apply lime in small quantities. Lime is applied in three states, quick lime, slaked lime, mild lime, gypsum, or plaster of paris. This manure produces a must beneficial effect, when applied as a top-dressing on pastures and meadows. During a drought, it seems by its power of attracting moisture, to aid materially in sustaining the plant. It is best applied in damp weather, and the quantity per acre is usually not large. The composition formed by the dissolution of common *salt* in the water, used for slaking quick-lime, is a very powerful manure. All saline manures are very energetic. They fail, however, to produce a beneficial effect, if applied in a dry season. The best time is just before or after rain. Wood or coal ashes, though hurtful to trees, are useful as a top-dressing for grass. Soot is an excellent manure, giving a beautiful dark green color to grass.

Composts are also no small portion of manurial studies.

Mold is one of the principal ingredients of a compost. Its carriage, however, is laborious, and the compost should be made, consequently, if possible, on the spot where proper soil is to be found.

Other ingredients, such as sawdust, spent tanner's bark, lime, refuse from the farm, etc., must be used in the compost. In fact, there is not a single refuse article on a farm, but which may be used as an ingredient.

There are various kinds of composts, viz.:

Peat, turf, and lime shells. The turf is wheeled to the side of a bog, and left there for some weeks, until all the water drops out. One cartload of lime to twenty-seven loads of turf is mixed, and the mass then becomes greasy. Peat turf and farm-yard dung, with a sprinkling of lime, lime and black mold; rape cake and mold; broken cake sprinkled on while the earth is turned. There ensues a brisk fermentation; after that has nearly subsided, apply it. To these may be added privy-tributes, pigeons' and fowls' dung, sawdust, and farm-yard dung.

Manure composed of horse-dung is peculiarly beneficial to moist, cold, sterile, clayey soils, the faults of which it corrects, while, at the same time, the soil checks the too violent action of the manure. If placed in the ground before decomposition is completely effected, it produces a very rapid effect, greatly accelerating the growth of plants, through the heat which is developed. The only soils in which manure composed chiefly of horse-dung is at all durable, are those of a moist and tenacious nature. When the dung is to be used by itself, it must be carried to soils of this nature as soon as its first stage of fermentation has commenced, and there buried.

It ameliorates the land by its mechanical action, rendering the soil more loose and light by its continual fermentation and the heat which it engenders.

Upon the whole, it would seem that the best fertilizer that can be obtained for the park is fresh stable manure (excepting that used for planting trees, which should be well rotted, as too great fermentation or heat would injure the roots), which should be spread while the process of trenching is going on, and thoroughly incorporated with the soil. It is very essential to divide and scatter the dung well; there must, therefore, be no lack of

laborers for this purpose, and an intelligent man should be employed to follow the spreaders, and to separate any lumps of manure which they may have neglected. While a too abundant use of manure is sometimes as detrimental as beneficial, yet on heavy clay land, like that of the Prospect Park, a larger portion of manure must be used at a time, because it can bear it without risk, while a smaller quantity, instead of producing an effect upon it, will probably be retarded in its fermentation, and will consequently remain in the state in which it was placed in the ground.

Manure from the stables is estimated by the load, and can be purchased at fifty cents per load. The quantity required on the park cannot be less than twenty-five thousand loads, which, at the above-named price, will make the total estimate of its cost, delivered, $12,500, to which add mixing, carting and spreading, $4,000—making total cost, $16,500.

TRENCHING.

Trenching, or the operation of opening the land to a greater depth than usual, by means of trench plows, spades or other proper instruments, is requisite under certain circumstances, in order to prepare for manuring. Trenching must be carried on in various ways according to circumstances. The simplest way is by the spade. Three feet is the depth for trees, two for ordinary purposes. Trenching is serviceable in dry weather, as the heat rarely, if ever, affects the soil below a certain depth. Care should be taken, however, in trenching not to throw a poorer over a richer soil; as great damage has been occasioned by such mistakes. Trenching costs much at first, but ultimately pays. It has been known to repay the labor as much as a thousand per cent. In trenching the site of an old plantation, the ground should be marked out in sections of about thirty feet in breadth. Under these circumstances, it is best that three men should work together rather than singly, as one aids the others if trees are to be extricated. In trenching very strong ground, the foot-pick is found most efficient. Iron levers may be used if needed, and the larger rocks in boulders blasted. Ground should be trenched before drained, if the land to be improved has been the site of a plantation. Trenching may be done at any season. The dry, warm days of summer have been

found more preferable by some. The soil being prepared, the next thing is to understand what manures are best and least expensive.

The cost of trenching the ground in the manner prescribed will be $100 per acre, but a great portion of the trenching can be done with a subsoil plow; and a great portion of the park being wooded, would still further diminish the cost.

There being about one hundred acres on the park which will require trenching, the total cost of this work will be less than $7,000.

PLANTING.

The planting of the grounds necessarily preceded by drainage and the fertilization of the soil, is also so dependent for effect upon all the other improvements, that it should be almost the last step in the progress of the work. The very large portion already wooded will obviate in a great measure the expense which would be otherwise incurred in supplying trees, essential to the completion of the landscape. The trees already in the grounds will require very judicious treatment, not only to bring them to a normal degree of perfection, but to open the necessary views through them. A very bad practice resorted to by the neighbouring residents for a long time—that of gathering the fallen leaves in autumn for making compost—has deprived the soil of a large amount of the essential ingredients of fertility, and the trees of the food necessary to their very existence. This will have to be remedied immediately by incorporating manure and vegetable mold with their soil and around their roots. All of the planting which it is proposed should be done at this time is around the border. This may consist of every variety of trees and shrubs, forming of them a nursery of young trees around the exterior line and along the sides of Flatbush avenue, which, in the progress of their growth and development, may be transplanted to the points where effect is required. Upon the proper conduct of this portion of the work depends the artistic character of the scheme. The method pursued in planting may mar the beauty of an otherwise perfect plan, and the closest study will be required to maintain the unity and harmony of the design. By a judicious selection of trees, and by their arrangement into groups with

regard to their size, shape and color, we shall be able not only to preserve, but to heighten the character of the scenes which the ever varying topography calls into existence. This must be a work of time. No person can appreciate this fact more than a true artist and close observer of nature. Trees have their individuality as strongly marked as men or animals; and to say that one tree would produce anything like the same effect in a certain locality that another would, is to deny the existence of this individuality. It becomes necessary, then, not only to know the lineaments, I may say, of every species, but to know the precise outline of the landscape from all its points of view. Where its effect is to be heightened by planting upon this outline, the various species of trees in their maturity should be sketched in turn, on paper, and in the mind on the ground, before the grouping or planting is undertaken. In this way alone can we achieve success or avoid error. I say the trees in their maturity—I mean when they have arrived at that point in their growth when their characteristics are fully developed; and they must be planted for that development, no matter what may be their effect upon the landscape when they are first put into the ground. The desire for immediate effect is the stumbling block of rural improvement, and every effort should be made to avoid it. Trees are the first features in a landscape, because the most necessary to it, and they are among nature's noblest objects. It is, therefore, important, when planted singly or blended in masses, that their distinguishing character should be preserved.

Those who wish to catch the eye by effect, generally avoid trees, especially as principal features, choosing large objects, such as bridges, terraces, etc., which, besides the advantage of requiring less artistic knowledge and study, are also for the same reasons more generally understood and noticed by others. Trees, however excellent and beautiful, if they have not superadded the beauty of effect, will attract no notice from observers of this class, and with such it is no matter how execrable may be the execution of the objects themselves!

A few large sized trees may be transplanted to produce immediate effect, but the great bulk of the planting must necessarily be from the nurseries on the ground; and in this connection, it is proper to state, that the most judicious course

would be to import from Europe the seedling plants, which, by careful cultivation in the grounds of the park, will soon outstrip the larger, but much more expensive trees, which are purchased from American nurseries. The greater portion of these trees are imported from Europe, and there appears to be no reason for paying the large increase in price over that of importation, while we have the ground in which they may increase in size while gradually adding to the beauty of the park. The same trees may be imported from $10 to $12 per thousand, which, after being here two or three years, our nurserymen charge from $300 to $500 per thousand for. By preparing the ground along the exterior line from fifty to one hundred feet for a nursery, and stocking it with imported trees, they would be large enough to transplant when the ground in the progress of improvement is ready to receive them.

ROADS, WALKS AND DRIVES.

There is very great responsibility attendant upon the proper construction of the roads and walks, and their judicious location. An error in this respect cannot be discovered until the work is completed, and any alteration of the route or of the manner of construction is accompanied with great expense, not to speak of the delay consequent upon such a course. Therefore, the location, grade, shape and material to be used should be carefully considered. The conditions to be fulfilled in the construction of a perfect roadway are, an easy grade, a well drained and smooth surface, a firm, dry road-bed, and durable materials. The cost will be governed by the character of the materials used, and in this connection it is proper to take into consideration the fact that there is lying upon the surface and distributed through the drift a very large quantity of boulders, chiefly composed of Diorite—a species of trap or basaltic rock transported from a distance during the drift period—the time that a greater portion of the soil of Long Island was transported where it now lies. It possesses both hardness and tenacity, essential qualities for a durable road material; but its excessive hardness renders it difficult to break into small pieces, and therefore perhaps too expensive to be used—much will depend upon the cost of breaking it up. There is also found in the drift a large quantity of other stone, which, though not equal

to the former in hardness or tenacity, yet possesses these qualities to a sufficient degree not to warrant their being rejected as road material. These stones have gone through the same process of attrition which has rounded the edges and smoothed the surfaces of the former, and they were submerged for the same period in that flood of water without disintegration. To the eye, no more effect has been produced on one than on the other. If they have been able thus to withstand the effects of the elements and of attrition, they will answer to a certain extent the purpose for which we require them; in fact, if there were no harder stone, we should consider this very good material. The same quality of stone to which we have referred may be obtained already broken into the suitable size, from the quarries on the North River. The relative cost of each would decide between them.

APPLYING THE MATERIAL TO THE ROAD-BED.

In referring to this subject, Professor MAHAN states:

Broken-Stone Road-Covering.—The ordinary road-covering for common roads, in use in this country and Europe, is formed of a coating of stone broken into small fragments, which is laid either upon the natural soil or upon a paved bottoming of small irregular blocks of stone. In England these two systems have their respective partizans, the one claiming the superiority for road-coverings of stone broken into small fragments, a method brought into vogue some years since by McAdam, from whom these roads have been termed *Macadamized;* the other being the plan pursued by Mr. Telford in the great national roads constructed in Great Britain within about the same period.

"The subject of road-making has within the last few years excited renewed interest and discussion among engineers in France; the conclusion drawn from experience, there generally adopted is, that a covering alone of stone broken into small fragments *is sufficient under the heaviest traffic and most frequented roads.* Some of the French engineers recommend, *in very yielding clayey soils*, that either a paved bottoming, after Telford's method, be resorted to, or that the soil be well compressed at the surface before placing the road covering.

"The paved bottom road-covering on Telford's plan is formed by excavating the surface of the ground to a suitable depth, and preparing the form for the pavement with the precautions as for a common pavement. Blocks of stone of an irregular pyramidal shape are selected for the pavement, which, for a roadway thirty feet in width, should be seven inches thick for the centre of the road, and three inches thick at the sides. The base of each should not measure more than five inches, and the top not less than four inches.

"The blocks are set by the hand, with great care, as closely in contact at their bases as practicable; and blocks of a suitable size are selected to give the surface of the pavement a slightly convex shape from the centre outwards. The spaces between the blocks are filled with chippings of stone, compactly set with a small hammer.

"A layer of broken stone, four inches thick, is laid over this pavement, for a width of nine feet, on each side of the centre, no fragment of this layer should measure over two and a-half inches in any direction. A layer of broken stone of smaller dimensions, or of clean, coarse gravel, is spread over the wings to the same depth as the centre layer.

"The road-covering thus prepared is thrown open to vehicles until the upper layer has become perfectly compact, care having been taken to fill in the ruts with fresh stone, in order to obtain a uniform surface. A second layer, about two inches in depth, is then laid over the centre of the road-way; and the wings receive also a layer of new material laid on to a sufficient thickness to make the outside of the road-way nine inches lower than the centre, by giving a slight convexity to the surface from the centre outwards. A coating of clean coarse gravel, one inch and a half thick, termed a binding, is spread over the surface, and the road-covering is then ready to be thrown open to traveling.

"In forming a road-covering of broken stone alone, the bed for the covering is arranged in the same manner as for the paved bottoming; a layer of the stone, four inches in thickness, is carefully spread over the bed, and the road is thrown open to vehicles, care being taken to fill the ruts and preserve the surface in a uniform state until the layer has become compact; successive layers are laid on and treated in the same manner

as the first, until the covering has received a thickness of about twelve inches in the centre, with the ordinary convexity at the surface.

"Where good gravel can be procured, the road-covering may be made of this material, which should be well screened, and all pebbles found in it over two and a half inches in diameter should be broken into fragments of not greater dimensions than these. A firm, level form having been prepared, a layer of gravel, four inches in thickness, is laid on, and when this has become compact from the travel, successive layers of about three inches in thickness are laid on and treated like the first, until the covering has received a thickness of sixteen inches in the centre and the ordinary convexity.

"As has been already stated, the French Civil Engineers do not regard *a paved bottoming* as essential for broken-stone road-coverings, except in cases of *a very heavy traffic*, or where the *substratum of the road is of a very yielding character.* They also give less thickness to the road-covering than the English engineers of Telford's school deem necessary; allowing not more than six to eight inches to road-coverings for light traffic, and about ten inches only to the heaviest traffic.

"If the soil upon which the road-covering is to be placed is not dry and firm, they compress it by rolling, which is done by passing over it several times an iron cylinder about six feet in diameter and four feet in length, the weight of which can be increased, by additional weights, from six thousand to about twenty thousand pounds. The road material is placed upon the bed, when well compressed and leveled, in layers of about four inches, each layer being compressed by passing the cylinder several times over it before a new one is laid on. If the operation of rolling is performed in dry weather, the layer of stone is watered, and some add a thin layer of clean sand, from four to eight tenths of an inch in thickness, over each layer before it is rolled, for the purpose of consolidating the surface of the layer, by filling the voids between the broken-stone fragments. After the surface has been well consolidated by rolling, the road is thrown open for travel, and all ruts and other displacement of the stone on the surface are carefully repaired, by adding fresh material, and leveling the ridges by ramming.

"Great importance is attached by the French engineers to

the use of the iron cyliner for compressing the materials of a new road, and to minute attention to daily repairs. It is stated that by the use of the cylinder the road is presented at once in a good traveling condition; the wear of the materials is less than by the old method of gradually consolidating them by the travel; the cost of repairs during the first years is diminished; it gives to the road-covering a more uniform thickness, and admits of it being thinner than in the usual method.

"*Materials and Repairs.*—The material for broken-stone roads should be hard and durable. For the bottom layer a soft stone, or a mixture of hard and soft, may be used, but on the surface none but the hardest stone will withstand the action of the wheels. The stone should be carefully broken into fragments of as nearly as cubical a form as possible, and be cleansed from dirt and all very small fragments. The broken stone should be kept in depots at convenient points along the line of the road for repairs.

"Too great attention cannot be bestowed upon keeping the road surface free from an accumulation of mud, and even of dust. It should be constantly cleaned by scraping and sweeping. The repairs should be daily made by adding fresh material upon all points where hollows or ruts commence to form. It is recommended by some that, when fresh material is added, the surface on which it is spread should be broken with a pick to the depth of half an inch to an inch, and the fresh material be well settled by ramming, a small quantity of clean sand being added to make the stone pack better. When not daily repaired by persons whose sole business it is to keep the road in good order, general repairs should be made in the months of October and April, by removing all accumulations of mud, cleaning out the side channels and other drains, and adding fresh material where requisite.

"The importance of keeping the road surface at all times free from an accumulation of mud and dust, and of preserving the surface in a uniform state of evenness, by the daily addition of fresh material wherever the wear is sufficient to call for it, cannot be too strongly insisted upon. Without this constant supervision, the best constructed road will, in a short time, be unfit for travel, and with it the weakest may at all times be kept in a tolerable fair state."

DETAILS OF CONSTRUCTING ROADWAYS.

1. All the surface soil should be removed to the depth of one foot on the whole line and width of the road, and deposited along the line.

2. All roots and other vegetable matter should be excavated, and wholly removed from the roadway, and, together with logs, brush and wood, be burned, or removed from the park.

3. All deposits of decomposed vegetable matter, or light spongy soils, should be excavated to a proper depth, and deposited on the line of the road.

4. That portion of all water courses or drainage streams, which crosses the line of the road, should be excavated to their firm beds, and properly covered with dry stone culverts.

5. All earth and soil, other than surface soil, which may be above the established grade, should be excavated to that grade.

6. The roadway should be properly shaped with a slope of one inch to twenty feet both ways, from the axis of the roadway.

7. The side-walks should be formed of dry subsoil, to be elevated not more than nine inches from the bottom of the side channels, and to have a pitch of three inches towards the side channels.

8. The surface of the roadway and side-walks should be well rolled with a heavy roller, until a smooth, compact surface, is formed.

9. Upon the road-bed thus formed, a coating of broken stone, from two to three inches in diameter, should be spread to the depth of four inches, and rolled with a heavy roller, until the whole become a compact mass; after which another coating of the same stone, and of the same depth should be added, and rolled as before. And afterwards, another layer four inches in depth, of hard, tough stone, should be added, and well rolled.

10. The side-walks shoulds be covered with a coating of sharp, clean gravel, to a uniform depth of three inches, and then rolled with a heavy roller; after which, a second coating of

three inches to be added, then rolled, until a firm, smooth surface, is formed.

Where it is necessary to raise the roadway above the natural level of the ground, a firm embankment should be formed to within two feet of the established grade, upon which the roadbed should be formed of dry subsoil.

In all side cuttings, a proper slope of earth should be given to the exterior side of the road.

ESTIMATED COST OF IMPROVEMENTS.

Among the arguments used in opposition to an extensive civic improvement of this character, are: The large original cost of the ground, the cost of putting it into a suitable condition for use, and the cost of maintaining it after it is laid out. And it is contended by some, that the total outlay under these three heads is not warranted by any results which may be attained.

Experience in England, France, and this country, thus far, has proved that the increased value of the adjacent lands has more than balanced the outlay by the increased amount derived from regular taxation upon the property.

And in regard to the cost of improvement, it is a mistaken idea—unhappily become too prevalent—that embellishment of ground in the hands of public officers is necessarily a very expensive matter; while, on the contrary, if the rules laid down in this report be followed—that of adhering closely to nature in every step of improvement—there is no reason why this public work cannot be completed at the same rate of expenditure which would govern a private citizen in improving his own property—due allowance, of course, being made for the thoroughness and stability of the work.

In regard to the preservation of the grounds after completion, a comparatively small sum will be sufficient, if judiciously expended.

The following estimates of the cost of the entire improvement is submitted as a maximum sum, which in various ways

may be reduced, if thought expedient, during the progress of the work:

Drainage	$22,000
Manure	24,000
Trenching	11,000
Roads	75,000
Walks	12,000
Ponds	5,000
Leveling and Esplanade	38,000
Enclosure	18,000
Viaduct	17,000
Sub-roadway under Flatbush Avenue	6,000
Planting	24,000
Gateways, Lodges, and Contingencies	48,000
Total	$300,000

CONCLUSION.

The basis upon which the foregoing estimate has been founded, and from which the general conclusions have been drawn, are, 1st, A triangulation of the entire area of the park, thus locating and defining its general topographical features; 2d, The instrumental traversing of all defined lines; 3d, The instrumental location of all water deposits, and connection of the same by a system of levels; and 4th, A careful and thorough examination and study for several months of all the natural features in outline and detail.

In the conduct of the work, I have been assisted by the following gentlemen:

G. S. Bachus, Esq., *C. E.*
Mr. Stevenson Towle, *C. E.*
Mr. Thomas Laurier, *C. E., of Brooklyn.*
Mr. W. C. Hawkesworth, *City Surveyor, of Brooklyn.*
Mr. Hamilton Ewen, *City Surveyor, of Brooklyn.*
Mr. John Crumly, *C. E.*
Mr. Frederick Rawolle, *B. S.*

To these gentlemen I am, considering the peculiar circum-

stances through which the work has been prosecuted, under much obligation.

In the daily prosecution of my labors, I have been more and more convinced of the fitness and adaptability of the ground to the purposes proposed. Of its necessity I have no doubt, nor am I less certain that its economic execution can be secured by strict adherence to well-established rules.

That the City of Brooklyn may secure, and its inhabitants may long enjoy this great public blessing, is my most heartfelt wish.

Respectfully submitted,

EGBERT L. VIELE.

Brooklyn, Jan. 15th, 1861.

SECOND ANNUAL REPORT

OF THE

COMMISSIONERS OF PROSPECT PARK.

1862.

COMMISSIONERS.

J. S. T. STRANAHAN,
THOS. McELRATH,
EDWARDS W. FISKE,
C. J. SPRAGUE,
CONKLIN BRUSH,
THOMAS G. TALMADGE,
STEPHEN HAYNES,
THOMAS H. RODMAN,
ABM. B. BAYLIS,
RICHARD H. THOMPSON,
JOSEPH A. PERRY.

PRESIDENT.

J. S. T. STRANAHAN.

SECRETARY.

RICHARD H. THOMPSON.

SECOND ANNUAL REPORT

OF THE

COMMISSIONERS OF PROSPECT PARK.

To the Common Council of the City of Brooklyn:

In conformity with the provisions of the law, the Board of Commissioners of Prospect Park herewith submit their Second Annual Report.

In the first report, which the Commissioners had the honor to submit to your honorable body in the month of January, 1861, allusion was made to the probable necessity of some additional legislation, especially in reference to the mode of appointing Commissioners of Estimate and Assessment.

In presenting this matter to the Legislature, other alterations in the law were found to be necessary, which resulted in the passage of an amended act; which, while it was entirely satisfactory to the Commissioners, rendered the law likewise satisfactory to a portion of our fellow-citizens, who discovered in the old law some objectionable features. A copy of the act is appended.

An increase in the number of Commissioners from seven to eleven, giving to the Board additional strength and efficiency, was among the important amendments embraced in the act. At the same time, the supposed constitutional objection of laying out a parade ground for the county by the same Commissioners who were appointed to lay out a park for the city, referred to in our former report, was obviated by leaving out all that relates to the parade ground.

The 14th section of the Act of 1861 authorizes the Commissioners of Estimate and Assessment to employ an attorney and surveyor, and fixes the per diem compensation of the

Commissioners, but fails, in the opinion of the Commissioners of Assessment, to point out or provide the manner of payment of these officers. Unless it shall be deemed necessary to remedy this supposed accidental omission, no necessity now appears to exist for any further legislation.

The expenses incurred for the preliminary surveys, for the maps and reports of the engineer, for counsel fees, and for a temporary watchman or superintendent of the park grounds, amount in the whole to about the sum of three thousand dollars. The whole of this amount remains unpaid. No other expenses have been incurred, nor any other debt contracted.

While the Commissioners have been careful to comply with all the requirements of the law—by the due organization of their Board, by the observance of all necessary duties imposed upon them as Commissioners, and by vigilantly guarding the rights of the public in the grants contained in the acts relating to the park—they do not consider themselves as having faltered in their duty to the public in not making any perceptible progress since their last report, in the actual development of their plans.

The year 1861 was not propitious for carrying forward such improvements as are contemplated in the establishment of Prospect Park. The commerce of the country suspended; the industry of the nation checked, and the hearts of the people crushed by a wicked attempt to destroy the benign government under which they lived and prospered, all public improvements became necessarily paralyzed. The Commissioners, therefore, make no apology for not pushing forward this greatest and noblest of Brooklyn enterprises during such a period. When the gloom which now spreads over our land shall have been dispersed, and when peace and prosperity shall awaken to new life the now repressed energies of our beautiful city, the Commissioners will not be found tardy in the performance of their duties, nor fail to meet the expectations of those who have confided to them this important trust.

The Commissioners do not think it probable that the action of the Commissioners of Estimate and Assessment will be sufficiently advanced to require any further expenditure by this Board during the present year, unless it should be found neces-

sary to employ a watchman to protect the trees and shrubbery from depredation.

It is gratifying to observe that the public taste in reference to city parks continues to force its claims upon public authorities elsewhere than in New York and Brooklyn. The city of Baltimore has taken initiatory steps for a park, which will do credit to the Monumental City. But while the great Central Park of New York, costing its millions of dollars, will, perhaps, in all time hold its superiority over any other which may be conceived or executed as a mere work of art, and while other cities may exhibit parks, ample in their extent and creditable for the good taste of their plans, the Prospect Park of the city of Brooklyn must always be conceded as the great natural park of the country; presenting the most majestic views of land and ocean, with panoramic changes more varied and beautiful than can be found within the boundries of any city on this continent.

Dated January, 1862.

Respectfully submitted,

J. S. T. STRANAHAN,
President Board of Com'rs of Prospect Park.

R. H. Thompson,
Secretary.

CHAPTER 340,

Of the Laws of 1861.

An Act to amend an Act passed April seventeenth, eighteen hundred and sixty, entitled "An act to lay out a Public Park and a Parade Ground for the city of Brooklyn, and to alter the Commissioner's map of said city."

Passed May 2, 1861; three fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. The act entitled "An act to lay out a Public Park and a Parade Ground for the city of Brooklyn, and to alter the Commissioner's map of said city," passed April seventeenth, eighteen hundred and sixty, is hereby amended so as to read as follows:

Section 1. The following tract, piece or parcel of land, having been selected and located for a public park for the city of Brooklyn, by Commissioners appointed for that purpose, by the act entitled "An Act to authorize the selection and location of certain grounds for Public Parks, and also for a Parade Ground for the city of Brooklyn," passed April eighteenth, eighteen hundred and fifty-nine is hereby declared to be a public place, that is to say: All that piece or parcel of land situate, lying or being in the city of Brooklyn and town of Flatbush, and bounded and described as follows: Commencing at the intersection of the Tenth avenue and Ninth street, and running thence southerly along the northeasterly side of Ninth street, and on a line in continuation thereof, into the town of Flatbush, to a point in said line which is one thousand feet distant from the city of Brooklyn; thence northeasterly on a line drawn parallel with Tenth avenue, until it intersects a line drawn southerly from and in continuation of the westerly side of Washington avenue; thence northerly along Washington avenue to its intersection with Warren street; thence westerly along Warren street to Vanderbilt avenue; thence southwesterly along Vanderbilt avenue to Flatbush avenue; thence southerly along Flatbush avenue to the easterly side or line of Ninth avenue; thence southerly along Ninth avenue to Third street; thence southeasterly along Third street to the easterly line or side of Tenth avenue, and thence southwesterly along Tenth avenue to its intersection with Ninth street at the place of beginning.

§ 2. The said piece of land shall, from and after the passage of this act, be deemed to have been taken by said city of Brooklyn, for public use, as and for a public park, and to have been declared open as a public place with the same effect as if the whole of the same had been within the city of Brooklyn, and as if it had been taken and declared open under and in pursuance of the provisions of an

act entitled "An act to revise and amend the several acts relating to the city of Brooklyn," passed April fourth, eighteen hundred and fifty, and the acts amendatory thereof, except as herein otherwise provided, and with the same effect as if the same had been originally laid down upon the Commissioners' map of the city of Brooklyn, and from and after the passage of this act, it shall be and form a part of said city of Brooklyn, and of said Commissioners' map; and the parts of all streets, avenues and highways (except Flatbush avenue), laid out as running through said land, are hereby closed and discontinued, and stricken from the said Commissioners' map, so far as the same would run through or intersect said land.

§ 3. Five discreet and competent persons, being citizens of the State of New York, shall be appointed to act as Commissioners of Estimate and Assessment, in relation to the taking and the value of said land. Said Commissioners shall be appointed in the manner provided by an act entitled "An act to provide for the opening of Washington Park, on Fort Greene, in the city of Brooklyn," passed April twenty-seven, eighteen hundred and forty-seven, except that they shall be appointed by the Supreme Court of the Second Judicial District, at any special term thereof, and all other proceedings in any court contemplated by this act, shall be had in said court; and in case of the death, resignation, disqualification or refusal to act, of either of said Commissioners, it shall be lawful for the said court at any general or special term thereof, on application, as in said act provided, and from time to time, as often as such event shall happen, to appoint any other discreet and disinterested person, being a citizen of the State of New York, in the place and stead of such Commissioner so dying, resigning or refusing to act. And said Commissioners shall proceed to discharge the duties of their appointment, and to complete their estimate and award, as soon as conveniently may be; and shall, if practicable, file their final report in the office of the Clerk of the county of Kings, within twelve months after the date of their appointment.

§ 4. It shall be competent and lawful for a majority of said Commissioners to perform the trusts and duties of their appointments, and their acts shall be as valid and effectual as the acts of all the Commissioners so to be appointed if they had acted therein, would have been; and in every case the proceedings and decisions of a majority in number of said Commissioners acting in the premises shall be as valid and effectual as if the said Commissioners appointed for such purpose had all concurred and joined therein.

§ 5. The said Commissioners shall make just and true estimate of the value of the lands mentioned in the first section of this act, and of the loss and damage to the respective owners, lessees, parties and persons, respectively entitled unto, or interested in the same, together with the tenements, hereditaments, and appurtenances, privileges or advantages to the same belonging, or in any wise appertaining, by and in consequence of relinquishing the same to the said city of Brooklyn. And in making such estimate they shall not make any deduction or allowance for or on account of any supposed benefits or advantages to be derived from taking said lands as public

places, or in consequence thereof, and the amounts so estimated when duly confirmed, shall be paid as hereinafter in this act provided. But after the cost of the said lands shall have been determined by the confirmation of the final report in relation thereto, it shall be the duty of said Commissioners to apportion such part of said cost as they may deem equitable, upon any lands outside of said park, which they shall deem to be specially benefited thereby, in proportion to such benefit. And whenever their report in relation to such apportionment shall be completed, they shall file the same with the Clerk of Kings County, and thereupon proceedings may be had to correct and confirm the same, as in this act provided. And after the confirmation of any final report of said Commissioners making such apportionment, said assessment shall be a lien upon said lands. The one-twentieth part of the amount thus apportioned, shall with interest, be chargeable annually upon the lands so assessed for benefit, and shall be included annually in the taxes to be levied thereon, and shall be levied and collected like other taxes upon property; and the proceeds thereof shall be paid over to the Commissioners of the Sinking Fund of said city, to be by them applied to the redemption of the bonds of said city, to be issued by virtue of this act. But any person interested in the land so assessed may at any time pay the whole amount due thereon, with interest to the said Commissioners of the Sinking Fund to be by them applied in the manner hereinbefore mentioned; and from and after such payment the lien hereinbefore created shall cease.

§ 6. Payment of the damages awarded by said Commissioners, in any report made in pursuance hereof, shall become due and payable, and shall be paid immediately upon the confirmation of said report.

§ 7. Before proceeding to discharge any of their duties, the Commissioners shall respectively take and subscribe an oath in writing, before some officer authorized by law to administer oaths, honestly and faithfully to discharge the duties which shall devolve upon them in pursuance of this act, which oath shall be filed in the office of the Clerk of the county of Kings. Said Commissioners shall proceed, as soon as may be after their appointment to discharge the duties of their trust, and to make and complete their estimates, and awards and reports as hereinafter provided; and every estimate, award and report so made, shall be signed by at least a majority of said Commissioners, and filed in the office of the Clerk of the county of Kings, and notice thereof given to the Counsel of the Corporation of said city of Brooklyn. Within twenty days after receiving such notice of the filing of such report, the Corporation Counsel shall give notice, by publication for ten days in two daily papers of said city, that he will at the next ensuing special term of the court aforesaid, and at the time and place to be specified in such notice, present such report for confirmation; and if said Corporation Counsel shall not within the time above prescribed cause such report to be presented for confirmation, then such notice may be given and said report may be presented for confirmation, as hereinafter prescribed.

§ 8. All such proceedings as are provided for in the fifth section of an act entitled "An act to provide for the opening of Washington Park, on Fort Greene, in the city of Brooklyn," passed April twenty-seventh, eighteen hundred and forty-seven, shall be had for the confirmation of said report, and for the revision and correction thereof, until a report shall be made or returned in the premises, which the court shall confirm. And every such report, when confirmed by the said court, shall be filed in the office of the Clerk of the county of Kings, and shall be final and conclusive upon the city of Brooklyn, and upon the owners of and persons interested in the lands and premises mentioned in said report, and upon all other persons whomsoever. Upon the confirmation of any such report, the title to the lands and premises therein described shall vest for ever in the said city of Brooklyn.

§ 9. In case any party, officer or person who is by this act directed or authorized to apply for the appointment of Commissioners, or for the confirmation of any report made by such Commissioners, shall neglect to make any such application in the manner and within the times in this act limited, such application may be made by any resident of the city of Brooklyn, being an owner of real estate in the said city, and the court shall proceed thereon as if the same had been made by the person or officer hereinbefore authorized or directed to make the same.

§ 10. For the purpose of paying for the land mentioned in the first section of this act, (and for the services of the said Commissioner and expenses of the attorney and counsel, surveyors, appraiser and clerk of said Commissioners, appointed by virtue of section 3 of this act, and of stationery, and room hire *as amended by chap.* 409, *laws of* 1864), and for the regulation and improvement of the same as in this act provided, as well as for the payment of such interest as may accrue upon any bonds to be issued by virtue of this act, prior to the collection of said interest on the annual tax of said city, in the year eighteen hundred and sixty four, the bonds of the city of Brooklyn, to such an amount as shall be necessary for that purpose, shall be issued by the Mayor, Comptroller and Clerk of said city from time to time as the same shall be required for the purposes aforesaid; which bonds shall be issued in the manner, and shall be in the form of the bonds issued by said city under the provisions of an act entitled, "An Act to provide for the supply of the city of Brooklyn with water," passed February eleventh, eighteen hundred and fifty-seven, except as herein otherwise provided; and said bonds shall be payable in not less than forty-five nor more than sixty years from the date thereof, and shall bear interest at the rate of six per cent. per annum, payable half yearly, on the first day of January and July in each year, and the said bonds, and the proceeds of the sale thereof, shall constitute the fund for paying the cost of the lands in the first section of this act mentioned, and for the improvement of the same; and as the said bonds are from time to time issued, the Mayor, Comptroller and Clerk shall each cause to be kept in his office, in a book to be provided for that purpose, a true and correct statement and account of each and every bond by him executed, showing the number of

each bond, and the date and amount thereof, and the time when due, and such book shall be open for public inspection, and shall be delivered by them to their successors in office.

§ 11. The bonds of the city of Brooklyn which shall be issued by virtue of this act may be used by said city, or by the Treasurer thereof, at their par value, in paying any amounts which said city shall become liable to pay for compensation or damages awarded under this act; or the same may be sold at public or private sale, or by subscription, and on such terms as the Common Council of said city may think proper; and the proceeds of all such sales shall be paid over to the Treasurer of said city, or such Treasurer may, with the concurrence of the Mayor and Comptroller of said city, pledge any of said bonds for money borrowed temporarily at a higher rate of interest, not exceeding seven per cent. per annum, if they shall deem it expedient and necessary so to do.

§ 12. The property of the city of Brooklyn, and the lands authorized to be taken by the first section of this act as a public park and place are hereby pledged for the payment of its bonds to be issued by virtue hereof.

§ 13. In order to pay the interest upon the bonds hereby authorized to be issued by said city, there shall be added to the general tax for the city of Brooklyn at large, in the year eighteen hundred and sixty-four, and yearly thereafter, and levied and collected therein as hereinafter specified, such sum of money in each of said years as shall be sufficient to pay the interest upon the bonds issued by virtue of this act; and from and after the year eighteen hundred and eighty-five there shall be added to the general tax for the city of Brooklyn at large, and levied and collected as aforesaid, in addition to any amount so required to pay the interest upon said bonds, a sum equal to one-half of one per cent upon the total amount of bonds which shall have been issued in pursuance of this act; and from and after the year eighteen hundred and ninety, there shall be in like manner levied and collected in each year, and in addition to the amount required to pay the interest aforesaid, a sum equal to one per cent. upon the total amount of bonds which shall have been issued in pursuance of this act; and from and after the year eighteen hundred and ninety-five there shall be in like manner annually levied and collected, in addition to the interest aforesaid, a sum which, together with the amounts above required to be levied and collected, and the accumulations thereof, will, with its accumulations, be adequate to pay and discharge the bonds to be issued under this act by the maturity thereof; which said several sums shall be from time to time, and in each year, paid over to the Commissioners of the Sinking Fund of the city of Brooklyn, to be held and managed by them, and shall be applied to the payment of the interest upon said bonds as it shall become payable, and to the full and final redemption of said bonds, and for no other purpose. And it shall be the duty of the Mayor and Comptroller of the said city to estimate and ascertain the amounts required to be so added to the general tax by virtue of this section, and to transmit a statement of the same in each year to the Board of Supervisors of the county of Kings in time to have such

amount included in the general tax of said city for that year; and it shall be the duty of said Supervisors to cause such amount to be included in such general tax. And in making the levy of taxes in this section prescribed, the said supervisors shall so apportion and levy the same as that all sums of money which shall be levied for the purpose of paying principal and interest of the bonds which may have been issued on account of the purchase, improvement and ornamentation of the lands comprising the said Prospect Park, shall be levied and collected exclusively upon and from the taxable property within that portion of said city now composing the first twelve wards thereof.

§ 14. The Commissioners appointed by virtue of section three of this act shall have authority to employ an attorney and surveyors, and to use any map on file or belonging to said city, and to cause such maps to be made as may be necessary; and said Commissioners shall be allowed a compensation of five dollars per day for their time actually employed in discharging their duties as such Commissioners. Before any award or compensation shall be paid for land taken for the park, the Attorney and Counsel for the city of Brooklyn shall certify that the title thereof is free from encumbrances, and that the city will acquire a perfect title thereto. He shall be allowed such reasonable compensation as shall be proper, to be taxed by the County Judge of Kings county, or one of the Justices of the Supreme Court for the Second Judicial District, and the same, together with the compensation of said Commissioners, shall form a part of the general expense.

§ 15. The said Park shall be under the exclusive control and management of a Board of Commissioners, to consist of not less than seven nor more than twelve persons, who shall be named and styled "The Commissioners of Prospect Park." A majority of said Board of Commissioners in office for the time being shall constitute a quorum for the transaction of business. (*As amended by chap.* 409, *laws of* 1865.)

§ 16. James S. T. Stranahan, Thomas McElrath, Edwards W. Fiske, R. H. Thompson, Thomas G. Talmadge, Stephen Haynes, Cornelius J. Sprague, Joseph A. Perry, Abraham B. Baylis, Walter S. Griffith, Seymour L. Husted, Teunis J. Bergen and Conklin Brush, (*as amended by chap.* 409, *laws*, 1864), are hereby appointed, and shall constitute the first Board of Commissioners of Prospect Park; they shall hold office as such Commissioners for five years from the passage of this act, and until their successors shall be appointed and duly qualified. No member of said Board shall receive any compensation for his services. In case of a vacancy, the same may be filled by the remaining members of the Board for the residue of the term then vacant; and all vacancies occasioned by expiration of the terms of office shall be filled by the Mayor, by and with the advice and consent of at least two-thirds of the Common Council of said city.

§ 17. The said Board shall have the full and exclusive power to govern, manage and direct the said Park, and the public use thereof; to lay out and regulate the same; to pass ordinances for the regula-

tion and government thereof; to appoint such engineers, surveyors, clerks and other officers, and such police force as may be necessary; to prescribe and define their respective duties and authority; to fix the amount of their compensation; and generally, in regard to said Park, they shall possess all the power and authority now by law conferred on or possessed by the Common Council of said city in respect to the public squares and places in said city. They shall also, in the name of the city or in the name of the Board, at their option, bring any action they may deem proper to recover damages for the breach of any agreement relating to the management or improvement of said Park, for penalties for the violation of any ordinance, for injuries to personal or real property appertaining to said Park, and also to recover possession of any such property. (*As amended by chap.* 599, *laws of* 1865.)

§ 18. It shall be a misdemeanor for any Commissioner to be directly or indirectly in any way pecuniarily interested in any contract or work of any kind whatever connected with said Park, and it shall be the duty of any Commissioner or other person who may have any knowledge or information of the violation of this provision forthwith to report the same to the Mayor of the city of Brooklyn, who shall present the facts of the case to any Judge of the Supreme Court of the Second Judicial District, such Judge shall hear in a summary manner such Commissioner or other person in relation thereto, and any evidence he may offer; and if after such hearing he shall be satisfied of the truth thereof, and shall so certify to the Mayor, he shall immediately remove the Commissioner thus offending. Every Commissioner shall, before entering upon the duties of his office, take and subscribe the oath prescribed by the constitution of the State, which oath shall be filed in the office of the Clerk of the city of Brooklyn.

§ 19. Said Board of Commissioners shall, in the month of January of every year, make to the Common Council of said city a full report of their proceedings, and a detailed statement of their receipts and expenditures.

§ 20. Whenever the city of Brooklyn shall have become vested with the title to said Park, as in this act provided, it shall be lawful for the Commissioners of said Park to let, from year to year, any buildings, and the grounds attached thereto, belonging to said city, which may be within the limits of said Park, until the same shall be required for the laying out and regulation thereof, when the said buildings shall be removed, except such as may be used for the purposes of said Park.

§ 21. Whenever the said city shall have become vested with the title to said Park as aforesaid, said Commissioners may sell any buildings, improvements and other materials, being within the limits of said Park, and belonging to said city, which in their judgment shall not be required for the purposes of the said Park, or for public use, the proceeds of which shall be deposited with the City Treasurer, to the credit of the Commissioners, and devoted to the improvement of the Park.

§ 22. No plan for the laying out, regulation and government of

said Prospect Park shall be adopted or undertaken by the Commissioners thereof, of which the entire expense shall exceed the sum of five hundred thousand dollars, nor shall they expend more than ten thousand dollars during either of the years eighteen hundred and sixty-one or eighteen hundred and sixty-two. But the Common Council of the City of Brooklyn may, on the application of said Commissioners, authorize said expenditures to be increased to twenty thousand dollars in either or both of said years, by a vote of not less than two-thirds of the members elected to said Common Council. Bonds shall be issued, sold and disposed of as directed in this act, for the purpose of providing such sums of money as shall be from time to time required by said Board of Commissioners having the government of said Park, subject to the limitation in this section prescribed.

§ 23. The money to be raised from the bonds referred to in the preceding section shall be deposited as fast as the same shall be realized, with the Treasurer of the city of Brooklyn, who shall keep a separate account of all moneys received by him for the improvement of the said Park. He shall hold such moneys on account of and for the purposes of the said improvement, and shall pay them out as provided in this act, and not otherwise. The said Board of Commissioners shall draw their drafts upon the Comptroller of the city, signed by their President and Secretary, for all claims, charges, and expenses to be authorized or incurred by them in the performance of their duties under this act, specifying in such drafts the purpose for which they are drawn; and the Treasurer shall pay the same out of the said improvement moneys, on the draft of the Comptroller, countersigned by the Mayor and City Clerk. (*As amended by chap.* 599, *laws* of 1865.)

§ 24. None of the said Commissioners, nor any person, whether in the employ of said Commissioners or otherwise, shall have the power to create any debt obligation, claim or liability for or on account of said Board, or the moneys or property under his control, except with the express authority of said Board, conferred at a meeting thereof duly convened and held.

§ 25. The office of either of said Commissioners who shall not attend the meetings of the Board for three successive months after having been duly notified of said meetings, without reason therefor satisfactory to said Board, may be, by said Board, declared vacant.

§ 26. Real and personal property may be granted, devised, bequeathed or conveyed to the said city of Brooklyn for the purpose of improvement or ornamentation of said Park, or for the establishment or maintenance, within the limits of said Park, of museums, zoological or other gardens, collections of natural history, observatories or works of art, upon such trusts and conditions as may be prescribed by the grantors or donors thereof, and agreed to by the Mayor and Common Council of said city. And all property so devised, granted, bequeathed or conveyed, and the rents, issues, profits and income thereof, shall be subject to the exclusive management, direction and control of these Commissioners.

§ 27. All ordinances which the said Board shall at any time pass for the regulation, use or management of the said Park shall, immediately after their passage, be published for at least ten days in two daily newspapers printed in the city of Brooklyn. (*As amended by chap.* 599, *laws of* 1865.)

§ 28. All persons offending against such ordinances shall be deemed guilty of a misdemeanor, and shall be punished on conviction before any court of competent jurisdiction in the county of Kings, by a fine not exceeding fifty dollars; and in default of payment by imprisonment not exceeding thirty days.

§ 29. All acts and parts of acts inconsistent with this amended act are hereby repealed.

§ 30. This act shall take effect immediately.

THIRD ANNUAL REPORT

OF THE

COMMISSIONERS OF PROSPECT PARK.

To the Common Council of the City of Brooklyn:

The Board of Commissioners of Prospect Park have the honor, herewith, to submit to your honorable body their Third Annual Report:

The Commissioners of Estimate and Assessment who were appointed by the Court, under the act of last year, have made considerable progress in their complicated and responsible duties. They have brought to their work experience, skill and ability, and there is every reason to believe that the result of their labors will challenge the assent and confidence of all parties interested.

The present appears to be a peculiarly favorable period for making payment to the landowners, to whom awards may be made by the Commissioners of Estimate. The bonds of the city of Brooklyn are now selling at a premium, and in order that the city may have the benefit of the existing advance in these securities, it is desirable that the Commissioners bring their labors to a close as speedily as may be consistent with the nature of the business confided to them will admit. Careful attention has been paid during the year to the preservation of the valuable trees and shrubbery within the park boundaries, and the Commissioners take pleasure in reporting that fewer attempts have been made at depredations on the property than during either of the previous years.

Since the last report, no expenses whatever have been incurred by these Commissioners, nor is it probable that any farther expenditure will be made by them until the Commissioners of Estimate and Assessment shall have substantially closed their estimates.

Dated January, 1863.

All which is respectfully submitted,

J. S. T. STRANAHAN,
President Board of Com'rs of Prospect Park.

R. H. Thompson,
Secretary.

FOURTH ANNUAL REPORT

OF THE

COMMISSIONERS OF PROSPECT PARK.

To the Common Council of the City of Brooklyn:

The Board of Commissioners of Prospect Park herewith respectfully submit their Fourth Annual Report:

During the year 1863 they have performed no active duties connected with the contemplated improvement of the Park grounds, nor could they enter thereupon until after the report of the Commissioners to estimate the value of the lands taken had been finally completed and confirmed by the Supreme Court.

This report was made in the month of December last, and is now on file in the County Clerk's Office, ready to be presented to the Court for confirmation. As soon as the report shall have been confirmed, the Board will organize in such a manner as to give it greater efficiency; and the work of laying out and improving the Park will be prosecuted as rapidly as may be consistent with economy, and with such prudent caution as may be deemed safe in the adoption of measures and plans.

No expenses have been incurred by the Commission during the past year, except for services of Counsel.

Dated January, 1864.

J S. T. STRANAHAN,
President Board of Com'rs of Prospect Park.

R. H. Thompson,
Secretary.

FIFTH ANNUAL REPORT

OF THE

COMMISSIONERS OF PROSPECT PARK.

1865.

COMMISSIONERS.

J. S. T. STRANAHAN,
CONKLIN BRUSH,
C. J. SPRAGUE,
A. A. LOW,
ABM. B. BAYLIS,
S. L. HUSTED,
E. W. FISKE,
THOS. McELRATH,
TEUNIS J. BERGEN,
JOHN H. PRENTICE,
STEPHEN HAYNES,
WALTER S. GRIFFITH.

PRESIDENT.

J. S. T. STRANAHAN.

SECRETARY.

WALTER S. GRIFFITH.

COUNSEL.

JOHN N. TAYLOR.

FIFTH ANNUAL REPORT

OF THE

COMMISSIONERS OF PROSPECT PARK.

To the Common Council of the City of Brooklyn:

The Board of Commissioners of Prospect Park respectfully submit to your honorable body their Fifth Annual Report, regretting that circumstances beyond their control have interfered with a more ample development of the important object of their appointment, than they are now able to present.

A former report of the Board intimated to the Common Council that it could not actively enter upon the discharge of its duties until after the report of the Commissioners of Estimate and Assessment had been completed. This report was subsequently filed in the office of the county clerk, but before any proceedings could be taken for its confirmation, it was deemed necessary to suspend further action until an application could be made to the Legislature to correct some informalities in the act, relating particularly to the manner of compensating the Commissioners of Estimate and Assessment for their services and expenses, so that the final confirmation of their report did not take place until October, 1864.

The lands embraced in the report extend over a space of nearly three hundred and twenty acres, and the compensation awarded therefor amounts to one million, three hundred and fifty-seven thousand six hundred and six dollars.

Measures were promptly taken by his Honor the Mayor, and by the Comptroller, to raise the money required for the payment of these awards, and payments began to be made in the month of December following.

More than three-fourths of the whole amount awarded to the proprietors has already been paid, but the difficulty of raising money at this particular juncture of public affairs has again delayed the period when the Board can take that entire control of the land which is necessary for laying out and improving the Park.

The Board hopes to obviate one cause of the delay by an application to the Legislature, at its present session, to authorize immediate action on the land, thus removing a restriction of no real value to the owners, and which now only serves to protract the commencement of operations, the importance of which cannot be over-estimated.

For these reasons, the Board can scarcely yet be said to have entered upon any of the more active duties contemplated by its appointment, nor has it, consequently, been able to lay out an entire plan of improvement. For although the property, as the awards are being paid, is gradually coming into the possession of the Board, it is only as a whole that any plan of improvement can be judiciously carried out.

A considerable portion of the park property is found to be encumbered with small—many of them dilapidated—buildings, which the Board has concluded to sell. But there are several good dwelling-houses, which may be advantageously rented until the ground on which they stand shall be required for the purposes of improvement. Among the small houses referred to, quite a large number are occupied by mere trespassers on the land, who are being quietly removed, and very soon the entire premises will have been cleared of all objectionable features, and fully prepared for the entrance of the landscape gardener.

But notwithstanding the action of the Board has been thus limited, the subject of improvement has occupied much of its attention, and the Board will be prepared to adopt a general plan of improvement as soon as circumstances will permit. One of the prominent features of any plan that may be adopted, must necessarily be a suitable approach to the main entrance, which the Board hope to render especially attractive. The subject of approaches is of much more importance than has been generally supposed, and if left unstudied now, might require to be settled at some future time at great expense. The Board is studious to avoid difficulties that have occurred in

other cities, where costly structures have been frequently destroyed in order to give place to improvements, when a more prudent foresight might have easily prevented the loss. The Board has deemed this matter of sufficient importance to make application to the Legislature for permission to take in several additional acres of land on the westerly side of Flatbush Avenue, near its junction with the Ninth Avenue, for the purpose of giving a more elegant and symmetrical approach to this entrance than can now be procured from the present contracted and angular arrangement of those avenues.

No expense has been incurred during the past year except for legal advice, and for the employment of a park keeper during a portion of the time.

In conclusion, the Board assures the Common Council, that no effort shall be wanting on its part to make Prospect Park, as speedily and as economically as possible, an honor to our city, and a source of health and of pleasure to its inhabitants.

Dated January, 1865.

All of which is respectfully submitted.

J. S. T. STRANAHAN,
President Board of Com'rs of Prospect Park.

WALTER S. GRIFFITH,
Secretary.

APPENDIX TO THE FIFTH REPORT.

PRELIMINARY REPORT ON BOUNDARIES.

Hon. J. S. T. Stranahan,

Pres't Com'r Prospect Park, Brooklyn.

Dear Sir,—Since my last visit to the Brooklyn Park locality with you, I have made a further examination of the site, and of the property in its immediate vicinity, for the purpose of forming a definite opinion in regard to the subject of approaches, and with special reference to questions of boundary. I now submit for the consideration of the Commissioners such observations as have occurred to me, together with an illustrative plan or diagram.

The ground at present set apart for the Park is cut into two main divisions or separate sections by Flatbush avenue, a wide and conspicuous thoroughfare that is much used for ordinary public travel. This arrangement is a disadvantageous one for the Park, considering it as a pleasure ground devoted to recreation and enjoyment, because it seriously interferes with the impressions of amplitude and continuous extent that the general dimensions would otherwise convey. It also involves the necessity for a considerable outlay in bridge construction which would not be called for if the public highway skirted your ground instead of traversing it. A thoroughfare crossing the Park might be a useful and even necessary adjunct if it were so situated that it served as a transverse road to connect two districts of the city that were likely in future to be closely built up, and that would otherwise be widely separated. But this does not happen to be the case in the present instance, and a glance at the map of Brooklyn is sufficient to show that the line of travel accommodated by the Park section of Flatbush avenue could be diverted without much inconvenience to Warren street and Washington avenue. If cross roads for business purposes are required at all, they seem to be needed in a direction nearly at right angles to Flatbush avenue. The city, however, is so laid out that the Park Commissioners do not probably feel that a necessity exists for any merely traffic roads across their property.

If we now proceed to consider the two main divisions of the Park separately, it will be found that the reservoir encroaches seriously on the smaller section east of Flatbush avenue, and really subdivides it again into two portions of somewhat insignificant dimensions for park purposes. The Reservoir itself, although very interesting as an engineering work, with its sloped bank and formal lines, is not capable of being made a landscape attraction, and it must therefore be treated as a separate matter altogether. Its upper level, however, commands extensive views in every direction, and for this reason, if for no other, it is desirable to retain it as a promenade for the enjoyment of visitors to the Park. The larger subdivision, west of Flatbush avenue, is in many respects well suited for its purposes, but the formation of the ground is such that the eye naturally looks in the direction of B. almost immediately after entering the Park domain at A.; and, as the boundary in this direction is soon reached, an appearance of contraction and limitation is a necessary result. The present outlines of this section include much that is interesting, but they do not appear to contain any portion of ground that can be readily converted into a skating pond of liberal dimensions, and this is, I think, a serious disadvantage, for experience seems to show that if sufficient skating facilities are provided, a park may in this latitude be made as attractive to visitors in winter as in summer.

The principal entrance to the Park will unquestionably be near the point where Flatbush avenue is intersected by Vanderbilt and Ninth avenues; and it is evident that the approach in this direction should be especially inviting and attractive. The present boundary lines in this vicinity seem to me to be very awkward and irregular, and I think it is hardly possible to retain them and at the same time obtain a dignified general effect.

Having for some time entertained these general views in regard to your Park, I was glad to learn, when invited to look over the property with you some few weeks since, that the subject of increasing the dimensions of the site to the south and west had of late been occupying the attention of your Board, and that a proposition to discard the north-easterly section altogether might perhaps be favorably entertained. It is without doubt highly desirable that the high ground south of the present boundaries, which I then visited for the first time with you, should be added to the Park domain; for this formation, known by the name of Vanderbilt Hill, is both interesting in itself and it also commands a fine open view of the sea, which can hardly be enjoyed so completely from any other spot in the vicinity.

I will not, however, at this time take up in detail the various points to which my attention has been directed, but will proceed to give my general impression in regard to the modifications that appear to be called for. In the first place, then, it seems highly desirable that the limits of the Park property should be extended to the south and west, as indicated on plan by the dark green color. A larger opportunity for landscape effect will thus be obtained, and an open ample appearance in a westerly direction will be ensured to every visitor who enters the Park by the principal approach. A highly interesting district will also be added to the south, and a site for a large lake or skating pond will be secured in the comparatively cheap flat land below Vanderbilt Hill.

If the last-mentioned suggestion is carried out, the lake will serve as an appropriate foreground to the view from the top of the hill overlooking it, and will add dignity to the prospect in this direction. If the line of Franklin avenue is adopted, about half the space between an observer standing on Vanderbilt Hill and the horizon will seem to be occupied by the lake and the Park. This effect will, of course, be merely an optical one, but a visit to the site will show at once that it will be all-sufficient to divert the attention of the visitor from the land occupied for agricultural purposes, and will serve to render the sea view more attractive. A nearer boundary than Franklin avenue would probably fail to realize the effect desired in this particular, and a more remote one is hardly called for. As matters now stand, the extensive meadows north of Franklin avenue, fenced and unplanted as they are, force themselves rather too much on the attention. The skating facilities in the Central Park, N. Y., are necessarily somewhat limited, because the ground is hilly and varied, and the present dimensions of the pond have only been secured by excavations made at considerable expense. In the Brooklyn Park, on the other hand, there appears to be a good opportunity to include within its boundaries the stretch of low flat land above referred to, and to excavate a pond of 50 or 60, or even a larger number of acres, and the soil to be taken out will doubtless be useful in enriching adjoining lands that may require improvement. It is not proposed to include the Friends' cemetery (colored brown on the plan) in the contemplated addition; but this ground is covered with fine forest trees, and probably will always remain so. If, therefore, your boundary encloses it on three sides, it will, for the purposes of general landscape effect, appear to belong to the Park; and if after a lapse of years it should by any chance be diverted from its present purpose, the city would then have an opportunity to pur-

chase it, if thought desirable. It will be seen by the plan that it is proposed to run the boundary line clear of the more expensive portions of the properties facing on Flatbush avenue, between the present southern line of the Park and Franklin avenue, for it does not seem to be important that the omitted lots should be included, if an opportunity for a liberal entrance in this direction is secured as indicated at D.

In regard to the section northeast of Flatbush avenue, I think it would be better to abandon it for park purposes altogether, and to appropriate the funds that will be raised by its sale to the purchase of more desirable, although cheaper, lands to the south and west of the present limits. The northeasterly section would be a very expensive plot of ground to improve, and however judiciously it might be managed, it would, I think, always present a cramped, contracted and unsatisfactory appearance. In regard to the reservoir site, which belongs to the city inalienably, it might with propriety be connected by means of a light foot bridge with one of the Park footpaths. The formation of the ground is suitable for the purpose, and the fine view to be obtained from the upper level of the reservoir will thus be included among the other attractions of the Park. If the northeasterly section is abandoned, a favorable opportunity is at once offered to enter the Park at the point of intersection made by Flatbush and Ninth avenues, and to make an arrangement in regard to the principal approach such as is indicated on the accompanying plan.

This question of approaches is a highly important one, and probably if left unstudied now, it will be settled at some future time at great outlay, as is the case yearly in London, Paris and the Continental cities, costly improvements being destroyed to insure tardily comprehended advantages, that, with proper foresight, could have been easily and cheaply arranged for at the outset.

Several objects are expected to be gained by this suggestion. In the first place, Flatbush, Ninth and Vanderbilt Avenues are brought into apparently symmetrical relation, and on entering the proposed open space from Flatbush or Vanderbilt Avenue, the Park entrance will at once appear to be central and all-important, while the avenues will be evidently subordinate.

The two crescents of plantation will take away from the narrow effect that a park entrance in such a position might otherwise have, and they will materially help to carry out the general effect that is aimed at.

Vanderbilt Avenue should, I think, be made one hundred feet

wide to Atlantic Avenue, and Ninth Avenue should be made one hundred feet wide to Twenty-first Street. It is also desirable that the line of Ninth Avenue should be slightly modified for a block as indicated on the plan.

If a monument of considerable importance should at some future time be erected at C, in the centre of the large open space, it would help to mark the Park entrance from a distance when approaching it from Flatbush Avenue; and, if well designed, would give much dignity to this part of the Plan. The general intention is to secure in season an appearance of breadth, proportion and symmetry, and a somewhat special character in the vicinity of this very important entrance to the Park.

I have now, I believe, explained the various suggestions indicated on the Plan, and leave the matter in your hands. I feel assured that the amount realized from the sale of the north-easterly section would go far to defray the cost of the proposed addition, if it would not pay for it entirely. The saving in bridges is also to be taken into consideration, and it must be borne in mind that the section proposed to be omitted would be far more costly to improve than the suggested addition. In regard, however, to the relative valuation of the lots, your judgment will, I think, be better than mine.

Yours,

CULVERT VAUX.

February, 1865.

PLAN SHOWING PRESENT & PROPOSED BOUNDARIES OF PROSPECT PARK BROOKLYN.

SIXTH ANNUAL REPORT

OF THE

COMMISSIONERS OF PROSPECT PARK.

1866.

COMMISSIONERS.

JAMES S. T. STRANAHAN,
CONKLIN BRUSH,
WALTER S. GRIFFITH,
JOHN H. PRENTICE,
EDWARDS W. FISKE,
TEUNIS J. BERGEN,
ABIEL A. LOW,
SEYMOUR L. HUSTED,
ABRAHAM B. BAYLIS,
THOMAS McELRATH,
STEPHEN HAYNES,
CORNELIUS J. SPRAGUE.

PRESIDENT.

JAMES S. T. STRANAHAN.

SECRETARY.

WALTER S. GRIFFITH.

SUPERINTENDENT AND COUNSEL.

JOHN N. TAYLOR.

SIXTH ANNUAL REPORT

OF THE

COMMISSIONERS OF PROSPECT PARK.

To the Common Council of the City of Brooklyn:

The Board of Commissioners of Prospect Park, by their previous Reports, could do little more than present a dry detail of the litigation which, in connection with the financial pressure of the times, had prevented them from making any very definite progress in the important work committed to their charge; and to advise the legislation which appeared to be necessary to enable them to proceed satisfactorily, and with a reasonable assurance that they would ultimately meet the obvious demands of the city in regard thereto.

The views of the Board, in this respect, having been adopted by the Legislature, at its last session, and the fearful strife which desolated the land and crippled its resources, being happily terminated, the time for more active measures arrived, and the Board proceeded to make the preliminary arrangements which were necessary for entering upon the long delayed work of providing and opening a suitable place of recreation for our citizens. For this purpose, a topographical survey of the ground originally fixed upon, as a site for the park and its vicinity, was made under the direction of Mr. Benjamin D. Frost and a competent corps of assistants: with a preliminary report by Mr. Vaux, suggesting a change of boundaries. A general plan of laying out and improving the grounds has also been prepared by Messrs. Olmsted & Vaux, landscape architects of acknowledged taste and skill, and is now, together with an extended report thereon, presented by those gentlemen, herewith submitted for your consideration.

The plan has been prepared in its present measurably complete form, because the Commissioners have found it impracticable to arrive at a thoroughly intelligent understanding in regard to the subject of boundaries, without such a development of the whole scheme as is embodied in this design and report. With the information now before them, they feel confident, not only that an important modification of the outlines originally fixed upon for the park is required, but that they are in a position to satisfy their constituents that, although the proposed change involves a considerable enlargement of the ground, yet the increased amount of accommodation, and the highly picturesque views, which are thus secured, will be in a much larger ratio than the increase of area, and is therefore justifiable on economical as well as upon esthetic principles.

The grand features of the plan are simple and easily comprehended; but the Commissioners wish to direct attention particularly to three regions of distinct character embodied in it, in each of which, it will be observed, the suggestions of the natural condition of the land are proposed to be developed. They are, first, a region of open meadow, with large trees standing singly and in groups; second, a hilly district, with groves and shrubbery; and third, a lake district, containing a fine sheet of water, with picturesque shores and islands. These being the landscape characteristics, the first gives room for extensive play grounds, the second offers shaded rambles and broad views, and the third presents good opportunities for skating and rowing.

Besides these, there are minor intermediate and exterior portions of the grounds which are devoted to zoological gardens and other special purposes. The different parts are connected with each other, and are brought advantageously into use and under observation by a carefully adjusted system of rides, drives and rambles. The existing natural features of the charming locality are everywhere accepted and made available, and the artificial constructions necessary for the convenient accommodation of the public, are as inconspicuous and inexpensive as possible, consistently with permanency and good taste.

The Commissioners are satisfied that the plan now submitted ought not to be changed in any manner which would materially affect the new boundaries, and that it cannot again be

altered without serious disadvantage. Nor do they believe that the enlarged area, in view of the other changes suggested by the Report, will essentially increase the cost of the park. They propose, therefore, at an early day, to take such action in the premises, as will effect the contemplated change of boundary: and they confidently anticipate a speedy completion of the entire improvement for the use of the public. The Commissioners have now no doubt that the park will soon become a favorite resort for all classes of our community, enabling thousands to enjoy pure air, with healthful exercise, at all seasons of the year; while its magnificent bay and ocean views, with the beautiful drives through its broad meadows and shady groves, free from the dust and confusion inseparable from crowded thoroughfares, will hold out strong inducements to the affluent to remain in our city, who are now too often induced to change their residences by the seductive influences of the New York park.

The Financial Statement of the Board for 1865 is herewith also submitted, from which it will be observed that the total expenditures of the board, for the present year, have been $17,780 90.

J. S. T. STRANAHAN,
President of the Board.

W. S. Griffith,
Secretary.

FINANCIAL STATEMENT

OF THE

COMMISSIONERS OF PROSPECT PARK,

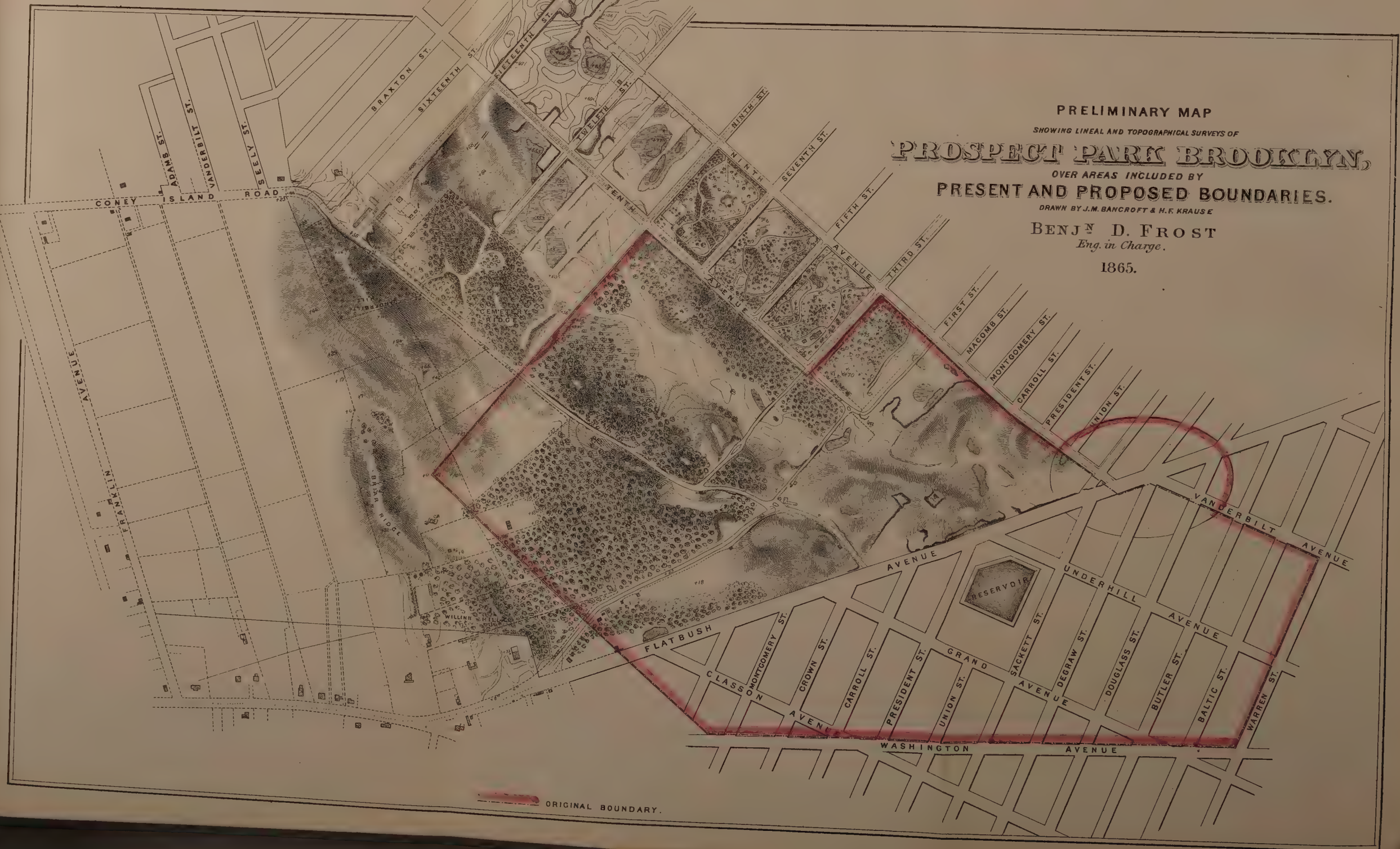
To January 1st, 1866.

Received from the City Treasurer		$24,700 00
" for sale of houses on the Park		4,762 55
" for rents		3,823 07
Total receipts		$33,285 62
Paid for sundry claims against the Board for expenditures incurred in 1860 for surveying, printing, services, &c.	$3,466 96	
Paid Architects on account of plan	4,500 00	
" Engineers and Surveyors for surveys of ground preparatory to a plan of improvement	5,982 55	
" Superintendent, Clerk, Park Keepers and Laborers	4,150 00	
" Stationery, printing and office expenses	632 46	
" Fitting up and furnishing offices	2,039 28	
" Repairs of houses on the Park	476 60	
Deposited with City Treasurer on account of sales of houses	4,700 00	
Total payments	$25,947 85	
Amount to the credit of the Commission in bank	6,675 74	
Amount in hands of Superintendent	662 03	
		$33,285 62

Total amount expended by the present Board for the improvement of the Park $17,780 90

JOHN N. TAYLOR,

Superintendent.


PRELIMINARY MAP
SHOWING LINEAL AND TOPOGRAPHICAL SURVEYS OF
PROSPECT PARK BROOKLYN,
OVER AREAS INCLUDED BY
PRESENT AND PROPOSED BOUNDARIES.
DRAWN BY J.M. BANCROFT & H.F. KRAUSE
BENJN D. FROST
Eng. in Charge.
1865.
CONEY ISLAND ROAD
ADAMS ST.
VANDERBILT ST.
SEELY ST.
BRAXTON ST.
SIXTEENTH ST.
FIFTEENTH ST.
TWELFTH ST.
TENTH
NINTH ST.
NINTH
SEVENTH ST.
FIFTH ST.
AVENUE
THIRD ST.
FIRST ST.
MACOMB ST.
MONTGOMERY ST.
CARROLL ST.
PRESIDENT ST.
UNION ST.
VANDERBILT AVENUE
UNDERHILL AVENUE
RESERVOIR
FLATBUSH AVENUE
GRAND AVENUE
CLASSON AVENUE
WASHINGTON AVENUE
MONTGOMERY ST.
CROWN ST.
CARROLL ST.
PRESIDENT ST.
UNION ST.
SACKETT ST.
DEGRAW ST.
DOUGLASS ST.
BUTLER ST.
BALTIC ST.
WARREN ST.
FRANKLIN AVENUE
CEMETERY RIDGE
BAR RIDGE
WILLING HILL
ORIGINAL BOUNDARY.

REPORT

OF THE

LANDSCAPE ARCHITECTS.

To the Board of Commissioners of Prospect Park, Brooklyn:

Gentlemen: We have been instructed to lay before you at this time such plans, accompanied by information and advice, as would aid you in a final review of the boundaries of the park proposed to be formed under your government. The study herewith submitted has been prepared for this purpose, and though not designed to be full or accurate in all details, is intended to be complete in those respects which are essential to an understanding of the advantages to be gained by such changes of the boundaries as we would recommend to be secured, before a plan of construction is definitively settled upon.

We proceed to show what these changes are, and why they are considered desirable.

In selecting a site for a park, it is evidently important that such natural advantages should be secured as are found in well grown woods, an agreeable variety of surface and fair prospects both of distant and local scope. It is true, that a site may be deficient in any of these characteristics, and yet, with time enough and money enough, be convertible, by well directed labor, into a park of varied and attractive scenery. If, however, such conditions as are most desirable to be added, should have been already provided by nature in the immediate vicinity of a site, it would be felt, on the one hand, to be an extravagance to repeat them by artificial means upon it; while, on the other, the disadvantage of its being without them would be greater, because more obvious. Moreover, there are two possible misfortunes of a site, which in no period of time, and by no expenditure of labor, can ever be remedied. These are, inadequate dimensions and an inconvenient shape.

Our first duty has been to examine the site to which you have

asked our attention, with reference to the several conditions we have thus indicated; that is to say, with reference to—

1. Convenience of its shape.

2. Amplitude of its dimensions.

3. Its topographical conditions, and the surrounding circumstances, in relation to which the value of its topographical conditions must in part be estimated.

The fact which first claims attention is the complete bisection of the site by a broad and conspicuous thoroughfare, much used for ordinary and indispensable public travel, between Brooklyn and an important suburb, that connects it with a large district of agricultural country. It is obvious that this division must seriously interfere with the impressions of amplitude and continuous extent, that the general dimensions of the ground assigned for a park would otherwise convey. To establish convenient communication between the two parts would involve a considerable outlay in bridge construction, which would not be called for if the public highway skirted the ground instead of traversing it. A thoroughfare crossing the park might be a useful and even necessary adjunct, if it were so situated that it served to connect two districts of the city that were likely in future to be closely built up, and that would otherwise be widely separated. Such, however, is not the case in the present instance, and a glance at the map of Brooklyn is sufficient to show that the line of travel, accommodated by the park section of Flatbush avenue, could be diverted, without much inconvenience, to Warren street and Washington avenue. If cross-roads for business purposes are required at all, it is in a direction nearly at right angles to Flatbush avenue. The city, however, is so laid out, that no real necessity is apparent for any merely traffic-roads across the property.

Proceeding to consider the two main divisions of the site separately, the Reservoir is found to encroach so seriously on the smaller section east of Flatbush avenue, that it is in effect subdivided again into two portions of very insignificant dimensions for park purposes. The formation of the ground is, moreover, of a character that would make its improvement very expensive, and when the best possible had been done, it would always present a cramped, contracted and unsatisfactory appearance. For these reasons, we think it our duty to advise, that so much of the site as lies east of Flatbush avenue should be abandoned for park purposes.

The great reduction which we have thus suggested in the dimensions of the park site, as originally provided, would oblige you either to be content with a much smaller park than has hitherto been con-

templated, or to determine on an extension of its original boundaries in some other direction.

As the number and value of the health and pleasure-giving circumstances possible in any park must of course be limited by its size, the question of size may be thought to depend on the restrictions fixed in regard to the number of these circumstances; and it may perhaps be thought, that a large park has advantages over a small one only in the greater number and the greater variety of the pleasures which it offers. But it would be a serious mistake to entertain any such idea, as will be evident to any one who will ask himself: Is there any pleasure which all persons find at all times in every park, and if so, what does that pleasure depend upon?

The answer unquestionably must be—That there is such a pleasure, common, constant and universal to all parks, and that it results from the feeling of relief experienced by those entering them, on escaping from the cramped, confined and controlling circumstances of the streets of the town; in other words, *a sense of enlarged freedom* is to all, at all times, the most certain and the most valuable gratification afforded by a park. The scenery which favors this gratification is, therefore, more desirable to be secured than any other, and the various topographical conditions and circumstances of a site thus, in reality, become important very much in the proportion by which they give the means of increasing the general impression of undefined limit. The degree of this impression, which will be found in any particular park, must unquestionably depend very much upon the manner in which it is laid out; that is to say, on the manner in which the original topographical conditions are turned to account by the designers; but as no degree of art can make the back yard of a town house seem unlimited, and as no art at all is required to make a prairie of some hundred square miles seem unlimited to a man set down in the midst of it, it is obvious that a certain distance between the points of resort within the park, and its exterior limits, is necessary, in order to allow the fence or wall that would otherwise definitely establish the position of the boundary to be obscured by planting, if nothing more; and that therefore, until all other necessary requirements are provided for, it will not be entirely practicable to determine where the boundary lines of the park may be established with a true economy of space.

We have first, then, to determine what accommodations are desirable to be secured within the park, and next how these shall be situated with reference to one another, and to exterior topographical circumstances. Our conclusions will depend first upon our under-

standing of the purposes which any town park should be designed to fulfil, that is to say, of the general principles to be observed, and secondly upon our estimate of the number and the special character of the people who are to use the particular park in question.

With regard to the latter point, we need only remark that we regard Brooklyn as an integral part of what to-day is the metropolis of the nation, and in the future will be the centre of exchanges for the world, and the park in Brooklyn, as part of a system of grounds, of which the Central Park is a single feature, designed for the recreation of the whole people of the metropolis and their customers and guests from all parts of the world for centuries to come. With regard, however, to the purposes which town parks in general should be intended and prepared to fulfil, this being a matter upon which little has ever been said or written, and upon which very different ideas prevail, and inasmuch as a clear understanding upon it must be had before a fair judgment can be formed of any plan for a town park, we propose to indicate the views which we have adopted, and out of which our plan has grown.

PURPOSES OF A PARK.

The word park has different significations, but that in which we are now interested has grown out of its application centuries ago, simply to hunting grounds; the choicest lands for hunting grounds being those in which the beasts of the chase were most happy, and consequently most abundant, sites were chosen for them, in which it was easy for animals to turn from rich herbage to clear water, from warm sunlight to cool shade; that is to say, by preference, ranges of well-watered dale-land, broken by open groves and dotted with spreading trees, undulating in surface, but not rugged. Gay parties of pleasure occasionally met in these parks, and when these meetings occurred the enjoyment otherwise obtained in them was found to be increased. Hence, instead of mere hunting lodges and hovels for game-keepers, extensive buildings and other accommodations, having frequently a festive character, were after a time provided within their enclosures. Then it was found that people took pleasure in them without regard to the attractions of the chase, or of conversation, and this pleasure was perceived to be, in some degree, related to their scenery, and in some degree to the peculiar manner of association which occurred in them; and this was also found to be independent of intellectual gifts, tranquilizing and restorative to the powers most tasked in ordinary social duties, and stimulating only in a healthy and recreative way to the imagination. Hence, after a time, parks

began to be regarded and to be maintained with reference, more than any thing else, to the convenient accommodation of numbers of people, desirous of moving for recreation among scenes that should be gratifying to their taste or imagination.

In the present century, not only have the old parks been thus maintained, but many new parks have been formed with these purposes exclusively in view, especially within and adjoining considerable towns, and it is upon our knowledge of these latter that our simplest conception of a town park is founded. It is from experience in these that all our ideas of parks must spring.

This experience shows that the great advantage which a town finds in a park, lies in the addition to the health, strength and morality which comes from it to its people, an advantage which is not only in itself very great and positive, but which as certainly results in an increase of material wealth as good harvests or active commerce. And the reason is obvious: all wealth is the result of labor, and every man's individual wealth is, on the whole, increased by the labor of every other in the community, supposing it to be wisely and honestly applied; but as there cannot be the slightest use of the will, of choice between two actions or two words, nor the slightest exercise of skill of any kind, without the expenditure of force, it follows that, without recuperation and recreation of force, the power of each individual to labor wisely and honestly is soon lost, and that, with out the recuperation of force, the power of each individual to add to the wealth of the community is, as a necessary consequence, also soon lost.

But to this process of recuperation a condition is necessary, known since the days of Æsop, as the unbending of the faculties which have been tasked, and this *unbending* of the faculties we find is impossible, except by the occupation of the imagination with objections and reflections of a quite different character from those which are associated with their bent condition. To secure such a diversion of the imagination, the best possible stimulus is found to be the presentation of a class of objects to the perceptive organs, which shall be as agreeable as possible to the taste, and at the same time entirely different from the objects connected with those occupations by which the faculties have been tasked. And this is what is found by townspeople in a park.

If now we ask further, what the qualities of a park are which fit it to meet this requirement? we find two circumstances, common to all parks, in distinction from other places in towns, namely, scenery offering the most agreeable contrast to that of the rest of the town,

and opportunity for people to come together for the single purpose of enjoyment, unembarrassed by the limitations with which they are surrounded at home, or in the pursuit of their daily avocations, or of such amusements as are elsewhere offered.

It may be observed, that these two purposes are not quite compatible one with the other; for that scenery which would afford the most marked contrast with the streets of a town, would be of a kind characterized in nature by the absence, or, at least, the marked subordination of human influences. Yet, in a park, the largest provision is required for the human presence. Men must come together, and must be seen coming together, in carriages, on horseback and on foot, and the concourse of animated life which will thus be formed, must in itself be made, if possible, an attractive and diverting spectacle.

How can these opposing requirements be harmonized?

Perfectly harmonized they cannot be, and, because they cannot be, success in realizing either must be limited. Yet, by a careful adjustment of parts, and by accommodating the means necessary to the effecting of one purpose to those necessary to the effecting of the other, both may be accomplished in a degree which experience shows is satisfactory.

In the endeavor to accommodate the requirements of the one purpose to those of the other, a perfectly equal compromise, at all points, is not essential. On the contrary, it is desirable that each should be carried out at some point in high degree, and if the natural topography is varied, it will not be difficult to select points suitable for doing this.

It is, however, necessary to a satisfactory result that what is wholly incompatible with one purpose and at the same time not absolutely necessary to the other should be everywhere rigidly avoided and excluded. For instance, a railroad station, a manufactory with chimneys and steam engines, advertising displays, wagons for commercial traffic, fast driving, gambling booths, a market place, though all of these may be seen in some town parks, are clearly there by mistake and want of proper consideration. We may add that whatever the numbers to be accommodated, it is incompatible with the rural character required in a park, that anything like the embarrassing turmoil, confusion and discordant din, common to the crowded streets of the town should be necessarily encountered within it, while it is equally evident that no regard for scenery should be allowed to prevent the assemblage and movement of great crowds within the park—of crowds much greater than occur anywhere else in the town.

To admit of this, and at the same time maintain anything of a rural, natural, tranquilizing and poetic character, in the scenery, the driving room, riding room, walking room, sitting room, skating, sailing and playing room, must be not only liberally designed, but must be studied and adapted to all the natural circumstances of the site with the greatest care.

HOW THE OBJECTS OF A PARK ARE TO BE ATTAINED.

To illustrate the practical application of these views, we will take one of the many classes of arrangements for the accommodation of the movements of the public through a park; the drive, or carriage way, and consider what is required in it.

A drive must be so prepared that those using it shall be called upon for the least possible exercise of judgment as to the course to be pursued, the least possible anxiety or exercise of skill in regard to collisions or interruptions with reference to objects animate or inanimate, and that they shall, as far as possible, be free from the disturbance of noise and jar.

To secure these negative qualities, the course of the road must be simple; abrupt turns must be avoided, steep grades that would task the horses or suggest that idea must not be encountered. The possibility of the road becoming miry must be securely guarded against; its surface must also be smooth and be composed of compact material.

These being the first and essential engineering considerations, it is necessary, secondly, that they should be secured in a manner which shall be compatible with the presentation of that which is agreeable to the eye in the surrounding circumstances; that is to say, the drive must either run through beautiful scenery already existing or to be formed, and for this purpose it may be desirable at any point to deviate from the line which an engineer would be bound to choose as that which would best meet the first class of requirements. It must also be remembered that although the drive can hardly be expected in itself to add to the beauty of the scenery, it must always be more or less in view as part of it, and it should therefore be artistically designed so as to interfere as little as possible with the views, and to present at all points agreeable and harmonious lines to the eye. Moreover, as it is desirable that at some point in the course of a drive through every park, there should be an opportunity for those in carriages to see others and be seen by others, some portion of the ground, which by development of natural suggestions cannot be readily made very attractive to the eye, should be chosen for that purpose. And here it will be proper that the

application of art to inanimate nature, as in architectural objects, and by festive decorations of the outlines of the drive itself, should distinctly invite attention, and aid to produce a general suggestion of sympathy with human gaiety and playfulness.

It is unnecessary to show here how the same general principles need to be regarded in the rides, the walks, the seats, the playing grounds, the skating fields, the places of refreshment, and in whatever other accommodations are proposed to be occupied by those who use the park. We would only remind you that no park has yet been made for the people of a large civilized town which has not been much more used than its designers had anticipated; and that all danger of damage, misuse and wasteful destruction of public property practically amounts to nothing, except as it results from insufficient extent of the means of communication and of rest within the park, or from an appearance of slovenliness, or want of completeness and finish in its arrangements for gratifying the eye, which adjoin these accommodations.

THE ARTISTIC ELEMENTS IN THE DESIGN OF A PARK.

The general principles in regard to scenery, which have governed us in our study, remain to be indicated; and inasmuch as some misapprehension in our judgment generally prevails concerning the province of art in the formation of scenery, and especially of scenery in the natural style, we propose to briefly express our views upon that subject.

A mere imitation of nature, however successful, is not art, and the purpose to imitate nature, or to produce an effect which shall seem to be natural and interesting, is not sufficient for the duty before us.

A scene in nature is made up of various parts; each part has its individual character and its possible ideal. It is unlikely that accident should bring together the best possible ideals of each separate part, merely considering them as isolated facts, and it is still more unlikely that accident should group a number of these possible ideals in such a way that not only one or two but that all should be harmoniously related one to the other. It is evident, however, that an attempt to accomplish this artificially is not impossible, and that a proper study of the circumstances relating to the perfect development of each particular detail will at least enable the designer to reckon surely on a certain success of a high character in that detail, and a comprehensive bringing together of the results of his study in regard to the harmonious relations of one, two or more details

may enable him to discover the law of harmonious relation between multitudinous details; and if he can discover it, there is nothing to prevent him from putting it into practice. The result would be a work of art, and the combination of the art thus defined, with the art of architecture in the production of landscape compositions, is what we denominate landscape architecture.

The first process in the application of this art upon any given site, is the formation of a judgment upon the capabilities and the limitations of that site, with reference to the artistic purpose. It is obviously impossible, for instance, to produce in the vicinity of Brooklyn such scenery as will affect the mind as it is affected by the Alps or the Sierras, on the one hand, or by the luxuriant vegetation of a tropical swamp on the other.

Moreover, there are certain kinds of scenery which experience shows to be most satisfactory within a town park, which require an extensive aggregation of their elements. It will be readily seen, for instance, that if all the wood, water and turf, within a certain area of ground, were distributed in patches, strips and pools, however extensive as a whole, and however varied in detail it might seem to those who should thoroughly explore all its parts, there would be no part which would not seem confined; there could be no large open single scene, and no such impression or effect on the mind would be produced as there would be if all the water were collected in one lake, all the trees in one grove, all the strips of grass in one broad meadow. Such aggregations, and consequently the degree of the impression intended to be produced by them, must be limited by consideration for two other purposes: the purpose of variety and interest, and the purpose to make all the scenery available to the satisfaction of the public by ways of communication. Other limitations upon the artistic purpose, again, are imposed by conditions of soil and exposure, by rock and springs. How far each of these can be overcome, as by blasting, draining, grading, screening, manuring and other processes, has to be studied with care, and the artistic purposes of the plan must be affected in every part and particular by the conclusions arrived at.

In the case before us, it is obvious that we should attempt nothing which is incompatible with, or inappropriate to, comparatively slight variations of surface, and a climate of considerable rigor. On the other hand, there are no protruding ledges of rock, no swamps difficult of drainage, and there is no especial bleakness, or danger to trees from violent winds, to be apprehended. It is under similar conditions to these that we find in nature that class of scenery

already referred to, as the original and typical scenery of parks or hunting grounds, and which is termed pastoral. It consists of combinations of trees, standing singly or in groups, and casting their shadows over broad stretches of turf, or repeating their beauty by reflection upon the calm surface of pools, and the predominant associations are in the highest degree tranquilizing and grateful. As expressed by the Hebrew poet: "He maketh me to lie down in green pastures; He leadeth me beside the still waters." We know of no other landscape effects that can be commanded, within the limitations fixed by the conditions of this site, which experience shows to be more desirable in a town park than these. This being the case, no other should be sought for or retained, if, by discarding them, we can the better secure these. Only so far, then, as we can, without sacrificing any thing that will contribute to the highest practicable ideal of pastoral scenery, should we endeavor to secure any degree of those other ideals, of which the best types are found under widely dissimilar circumstances.

Although we cannot have wild mountain defiles, for instance, on the park, we may have stony ravines shaded with trees and made picturesque with shrubs, the forms and arrangement of which remind us of mountain scenery. We may perhaps even secure some slight approach to the mystery, variety and richness of tropical scenery, by an assemblage of certain forms of vegetation, gay with flowers, and intricate and mazy with vines and creepers, ferns, rushes and broad-leaved plants. But all we can do in these directions must be confessedly imperfect, and suggestive rather than satisfying to the imagination. It must, therefore, be made incidental and strictly sub ordinate to our first purpose.

Having formed these general plans, we find, in further studying the site, its most important circumstance to be the fact, that a large body of trees already exist upon it, not too old to be improved, yet already old enough to be of considerable importance in a landscape. These trees are in two principal divisions, between which a space of two or three hundred feet in width is found, of undulating ground, not wholly ungraceful, and now mainly covered with a ragged turf. A few trees stand out singly upon this space. It is more nearly level, and less occupied by trees, than any other portion of the site. There is no rock in place upon it, nor would it be at all impracticable to reduce its few abrupt and graceless hillocks, and fill up its gravel pits and muck holes. If we imagine this to be done, and then look at it in connection with the surrounding groves, it is obvious that all that is required to form here a fair example of pastoral

scenery is, first, an improvement of the turf, and, secondly, greater space, so that the observer may not see all the boundaries of free sunlight before him at a glance. The former requirement is certainly within our power, all that is needed to secure it being the drainage, deep tillage and enrichment of the soil, and the substitution of finer grasses for the present coarse grasses and weeds. Something may be done also with regard to the second, by cutting in upon the borders of the woods, where the ground lies in gentle slopes, leaving only the finer trees to stand out singly, or in small groups, upon the turf to be formed upon the new ground thus obtained. Were this done, however, the open space would still be comparatively an unimportant one in relation to the whole park. The observer would take it all in at a glance, and if this were all he felt that he could look for, the result would be tantalizing rather than satisfactory.

As a very important suggestion springs from this observation, we shall be pardoned for referring to a portion of the Central Park, New York, where somewhat similar conditions formerly existed, and where our views have been adopted and realized. Entering by the turn to the right, at the Merchant's Gate, in a few moments the visitor's eye falls upon the open space called the Cricket Ground, where originally was a small swamp, enlarged at great expense in the construction of the park, in order to meet a similar artistic purpose to that above explained, by the removal of several large ledges of rock, and now occupied by an unbroken meadow, which extends before the observer to a distance of nearly a thousand feet. Here is a suggestion of freedom and repose which must in itself be refreshing and tranquilizing to the visitor coming from the confinement and bustle of crowded streets. But this is not all. The observer, resting for a moment to enjoy the scene, which he is induced to do by the arrangement of the planting, cannot but hope for still greater space than is obvious before him, and this hope is encouraged, first, by the fact that, though bodies of rock and foliage to the right and left obstruct his direct vision, no limit is seen to the extension of the meadow in a lateral direction; while beyond the low shrubs, which form an undefined border to it in front, there are no trees or other impediments to vision for a distance of half a mile or more, and the only distinct object is the wooded knoll of Vista Rock, nearly a mile away, upon the summit of which it is an important point in the design, not yet realized, to erect a slight artificial structure, for the purpose of catching the eye, and the better holding it in this direction. The imagination of the visitor is thus led instinctively to form the idea that a broad expanse is opening before him, and the

more surely to accomplish this, a glimpse of a slope of turf beyond the border of shrubs in the middle distance has been secured. As the visitor proceeds, this idea is strengthened, and the hope which springs from it in a considerable degree satisfied, if not actually realized, first by a view of those parts of the Cricket Ground which lie to the right and left of his previous field of vision, afterwards by the broad expanse of turf on either side and before him, which comes into view as he emerges from the plantations at or near the marble archway.

The carrying out of this most important purpose in the scenery of the Central Park, owing to the rocky and heterogeneous character of the original surface, involved much more labor, and a larger expenditure, than any other landscape feature of that undertaking.

For the same reason that induced us to recommend that expenditure to the Commissioners of the Central Park, we feel dissatisfied with the limits of the space we are now regarding. It is evident at a glance, however, that if we do not restrict ourselves to the artificial boundary formerly fixed upon for the park, this space may readily be more than doubled in extent without encroaching upon any considerable natural elevation, and at a very moderate expense. Thus our second requirement would be met.

In addition to the special artistic advantage which the acquisition of this ground would secure, there are two other very important considerations in favor of obtaining it: First, such an addition is almost indispensable to a proper provision of playing grounds, there being no space of moderately level ground not occupied by groves of trees of much value, sufficient for this purpose, upon the territory now controlled by your Commission; second, its acquisition will enable us to make a very great improvement upon any general plan of drives, rides and walks, which would otherwise be practicable, and in these and other ways, to which we shall hereafter allude, it will greatly lessen the danger of overcrowding the park.

Next to groves and greensward, a sheet of water is the most important element in the character of the scenery which we desire to realize. We find no place suited to the formation of such a feature of sufficient extent within the limits of the site now held by your Commission. At a short distance beyond them, there is, however, a broad plain, overlooked on the park side by the highest ground in the vicinity, from the top of which there is a prospect to the southward, which includes a large sweep of the ocean, the Highlands of Navesink, Sandy Hook, and all the outer harbor of New York. The formation of a lake on the low ground referred to, in such a manner

that this elevation would be reflected upon its surface, would add such an unquestionable advantage to the landscape attractions of the park, that we should feel obliged to take the same course with reference to it as we have done in regard to the previously proposed extension of the limits of the site, even if no other considerations favored it. The great value of a park lake in this climate, however, for skating, and the attractiveness of the spectacle which crowds of skaters afford to others, added to its value for the recreation of rowing, afford additional inducements of no small consequence in favor of this course. With the further addition, which we therefore advise, it will be practicable to form a sheet of water having more than twice the accommodation for skaters of that in the Central Park. The Central Park Lake, though many objected to it originally as larger than necessary for any artistic purpose, while it occupied space which might be otherwise used to advantage, is already found much too small for the comfortable accommodation of those who are prepared to use it, and many turn from it, in consequence, to those small ponds where the payment of an admission fee secures greater space to individual skaters. If this is now the case, the need of very much larger skating space will be a very pressing one in the future, as population increases. We cannot doubt that a sheet of ice in Brooklyn, equally near to the present centre of population of the metropolis, and more than twice as large as that in the Central Park, would soon attract a larger number of persons than have ever yet resorted to the latter. This number has on several occasions been above one hundred thousand in a day and five hundred thousand in a week. If we consider that the opportunity afforded for this recreation would be worth in the acquisition of health and vigor to the whole body of citizens an amount equal to a dime for each visitor, it will be evident that the whole cost of purchasing the land in view, and of constructing the lake, might be defrayed by the use which would be made of it in a single season.

Supposing the more hilly land to be covered by plantations, and a greensward to be formed upon the open ground which we have described, and the low plain to be mainly occupied by a lake, we have the three grand elements of pastural landscape for which we were seeking. What remains consists of limited strips of surface, generally stony and somewhat rough, and may be left to be treated incidentally, as before explained. To the important features of the greensward, the wood, the lake, and the hill, the roads and walks must be accommodated in such a way as to give the visitor the best advantage, consistent with ease and comfort, for enjoying whatever

charm they may be made to possess. Before referring particularly to the system of communications, however, it will be best to speak of certain other detached arrangements.

PLACES OF CONGREGATION AND REST.

Besides the green, our study provides three places, each adapted to the assemblage of large numbers of people, and for their remaining together for some time at rest.

The first of these we designate the Lookout. The circumstances which make a special arrangement for the accommodation of an assemblage at this point desirable are—1st, the view which is obtained here, and nowhere else in the park, of the outer harbor, the distant mountain ranges of New Jersey and the ocean offing; 2d, the peculiar advantages which the elevation offers for the enjoyment in hot weather of the sea breeze; 3d, the interest of the local scenery, which it is our intention should be quite different from that of any other part of the park; and 4th, the bird's-eye view which will be presented of military evolutions, if the projected parade-ground should be formed south of the park.

We propose to form here a terraced platform, one hundred feet in length, with seats and awnings, connected by a broad terrace walk and staircase with an oval court for carriages, three hundred feet long and one hundred and fifty wide. On the west side of the platform provision is made for a small low building, designed for the special accommodation of women and children, and at which they may obtain some simple refreshment. This building is also intended to serve the purpose of shutting off the view westwardly from the lookout platform, as this would otherwise detract from the effect obtained in other directions.

All the principal walks of the park tend to lead the visitor from whatever entrance he starts, to finally reach the Lookout, though he may visit every other part of the park, and yet avoid this if he prefers. From the Lookout, broad walks lead across the park to the east end of the lake, where, at a part commanding the largest water view, together with a rich open meadow landscape, backed by the highest elevation of the park, pinnacled with evergreens, arrangements for open-air concerts are proposed. The orchestra will be situated upon an island in a bay of the lake, so that it can be seen from three sides. On the main land, within a distance of two hundred and twenty-five yards of this island—at which distance the music of a well appointed band can be perfectly appreciated—stand-


DESIGN FOR
PROSPECT PARK
AS PROPOSED TO BE LAID OUT FOR
THE CITY OF BROOKLYN.
OLMSTED VAUX & CO.
LANDSCAPE ARCHITECTS.
1866-1867.
THE LAKE
THE GREEN
THE WOODS
ZOOLOGICAL GROUND
DEER PADDOCK
CARRIAGE CONCOURSE
CONCOURSE FOR PEDESTRIANS
MUSIC STAND
THE REFECTORY
TERRACE
LOOK OUT
POOLS
BRIDLE ROAD
WALK
DRIVE
ENTRANCE
PRESENT HOUSE
PRINCIPAL ENTRANCE
RESERVOIR
CONEY ISLAND ROAD
BRAXTON STREET
TENTH STREET
SIXTEENTH STREET
FIFTEENTH STREET
FOURTEENTH ST.
THIRTEENTH ST.
TWELFTH ST.
ELEVENTH ST.
TENTH ST.
NINTH ST.
EIGHTH ST.
SEVENTH ST.
SIXTH ST.
FIFTH ST.
FOURTH ST.
THIRD ST.
SECOND ST.
FIRST ST.
MACOMB ST.
MONTGOMERY ST.
CARROLL ST.
PRESIDENT ST.
UNION ST.
EIGHTH ST.
SACKETT ST.
DEGRAW ST.
DOUGLASS ST.
FLATBUSH AVENUE
VANDERBILT AV.
PROPOSED EXTENSION OF CLINTON AV.
UNDERHILL AVENUE
BUTLER ST.
BALTIC ST.
WARREN ST.
GRAND AV.
WASHINGTON AVENUE
CLASSON ST.
CROWN ST.
FRANKLIN AV.
FRANKLIN AVENUE
Scale of feet

ing room is provided for horses and carriages in a circular space about five hundred feet in diameter, and in an oval space at a higher elevation, three hundred feet long and one hundred and seventy-five feet wide, while directly in front, at a distance varying from one hundred to five hundred feet, a space is provided, to be occupied by shaded seats, sufficient for over ten thousand people. Provision is made for the rapid dispersion of the audience, however large it may be, on foot, in carriages, and on horseback; also for checking the movement of carriages within the circular space, during the performance of the music.

Midway between the lookout concourse and the music concourse, and with approaches for footmen and carriages from both, a series of terraces and arcades is provided, within which there will be room for a large restaurant. These look out upon the lake, and the floor of the lower arcade will be nearly on a level with the surface of the lake, so that it can be readily entered from the ice in winter or from boats in summer. The upper terrace is five hundred feet in length by sixty feet in width, and the remaining floor space of the structure one hundred and seventy-five by two hundred feet. The arcades are intended to be the principal architectural feature of the park.

SYLVAN FEATURES.

There are four sylvan features of considerable importance in the plan. First, upon the green, the meadow, and the slopes of the upper lake, a display of the finest American forest trees, standing singly and in open groups, so as to admit of the amplest development of individuals, which will be further encouraged by the best attainable conditions of soil and situation.

Second, in the central portions of the park, an open grove of forest trees, in which visitors may ramble in the shade without impediment of underwood, and without danger of doing harm to anything through carelessness or any ordinary selfish impulse.

Third, a collection, arranged in the natural way, of the more delicate shrubs and trees, especially evergreens, both coniferous and of the class denominated in England American plants, such as Rhododendrons, Kalmias, Azalias and Andromedas: these would be situated on the interior slopes of the Lookout and the Friend's Hill, and in the valley between them, where, from the peculiar circumstances of exposure and protection they will be likely to thrive.

Fourth, picturesque groups of evergreens and deciduous trees and shrubs on the shore of the lake.

PLAY-GROUNDS AND GREENSWARD.

A portion of the Green, nearest the Flatbush railroad and the refectory, and where the surrounding road and walks are at the greatest distance from the centre, is proposed to be fitted to be used for a ball playing ground, by the children of the public schools and others.

We should advise that the whole of the Green, upon special occasions at least, if not at all times, should be open to all persons on foot, as a common. If the ground is properly prepared, there is no danger that the beauty of the turf would be seriously impaired, except perhaps immediately after heavy rains, at which time it would seldom occur that the park would be greatly crowded with visitors. If this is done, and the interior groves also thrown open to pedestrians, through their whole extent between the bridle road and the green, we consider that the danger that the walks and resting-places would be overcrowded, so as to force or sorely tempt visitors to go upon ground, where they would really injure the elements of the scenery, or create disturbance, embarrassment and waste, would be very small.

ZOOLOGICAL GROUND.

The tract of broken ground near the Ninth avenue, now partly occupied by gardens and residences, the features of which are quite varied, but rather diminutive for desirable park effects, we propose should be held in reserve for zoological collections, and, as it may properly be placed under the control of a special corporation for this purpose, we refrain at this time from suggesting in what manner it should be laid out. This subject will be recurred to.

GRAZING GROUND FOR DEER.

The narrow sheltered strip of meadow, on the opposite side of the park, we propose to enclose with a sufficient iron paling and make use of as a pasture ground for deer, antelopes, gazelles, and such other grazing animals as can be satisfactorily herded together in summer upon it.

WATER WORKS AND DRAINAGE.

In regard to the water needed for the Lake, we are informed that sufficient may be spared from the general supply already brought to the city by the Nassau Water Works. We recommend, however,

that arrangements be had in view, not only for securing an independent supply, but also for keeping up a constant circulation, by pumping the water from the Lake to the spring on the west side of the Friends' Hill, so that it may always be flowing from that point in a natural stream. The pump for this purpose would be worked by steam, in connection with the kitchen of the refectory. The stream furnished by the spring is intended to take first the character of a series of pools, overhung on the one side by the trees upon the north side of the Friends' Hill, and margined on the other by banks of turf. It would then assume more of the usual character of a small mountain stream, taking a very irregular course, with numerous small rapids, shoots, and eddies, among rocks and ferns, until it emerged from the shadow of the wood upon a grassy slope; thence it would flow more quietly until, after falling over a body of rock, in connection with a foot bridge on the side of the park opposite that on which it started, it would assume the appearance of a small river with high and shaded banks, and at length, passing the refectory and music concourse in two reaches, empty into the eastern bay of the Lake. Here, on the north shore, would be a low flat meadow, with a few large trees and small thickets of bushes overhanging the water. In the coves would be beds of pond lilies and other aquatic plants, and, on the shores near them, flags, cat-tails, bulrushes, and the like. This arrangement would give opportunity for every variety of water scenery which is practicable within the space of the park, with any moderate supply of water.

The natural outlet for the surplus water of the park would be in a southerly direction, and a plan of drainage may be adopted, that will be more simple and less expensive than would usually be practicable upon a site of this extent, having such a considerable variety of surface.

RIDES, DRIVES AND WALKS.

The more important features of scenery and of local accommodations for various purposes, having been thus pointed out, we now turn to the several ways of communication by which they are connected and related one to another.

The drive, commencing with a width of sixty (60) feet, at the centre of the north or principal entrance to the park, is carried in a southerly direction for some little distance, but diverges slightly to the east, so as to accommodate itself to some high ground in the neighborhood. It there branches to the southeast and southwest, and becomes a part of the circuit drive, which is proposed to be of

an average width of forty (40) feet. The arrangement of the lines and curves, at the junction, is such that carriages coming into the park will continue to proceed for a few hundred feet in a southeasterly direction, after reaching the circuit drive, and will thus be fairly started on the road that it is intended they should follow, for, although the formation of the ground naturally suggests this treatment of the lines, we should, under any circumstances, have made an effort to arrange the plan in some such way as is indicated in the design, because the southeasterly branch leads more directly into the heart of the park. It commands, moreover, from a point very near the entrance, a view in the direction of the length of what is now an unplanted stretch of ground, but which is treated in the design as open lawn or meadow, dotted with trees, it being the intention to reduce the height of a low, narrow ridge that crosses this piece of ground, so that its real extent may be fairly seen from the drive.

Continuing on the course already indicated, the road soon curves to the right, and ascends to a point from which it is proposed to obtain an extensive view, in a westerly direction, over the great green of the park. From this point the road descends into the wooded defile where an old wayside inn now stands, marking the ground held by the Continental forces in an engagement during the battle of Long Island, at which point it will be practicable, in perfecting the plan of the park to provide for some architectural memento of that important struggle.

Passing through the defile, a view is obtained over a pretty glade of turf to the left, intended to be used as a grazing ground for deer, and bounded on the opposite side by the thick coppice-wood which already effectually conceals the Flatbush avenue. Keeping to the right of the deer paddock, the drive continues to pass through the woods, but presently divides into two somewhat narrower branches, by which means full advantage is taken of the already existing opportunities for shade, and the standing trees are less interfered with than would otherwise be necessary, and then, reuniting, continues to run in a southerly direction, till it approaches the proposed Franklin avenue boundary line. At this point it divides again, and one branch enlarges almost directly into the open space previously described as the music concourse. The other branch or main line of drive, after passing the two entrances to the concourse, is carried round the head of the Lake, and along the shore in a westerly direction, till it approaches the proposed Coney Island road boundary. It then curves to the northward, still following the

shore of the Lake, until it reaches the west side of the Lookout Hill. Although there is nothing interesting in the natural scenery of this stretch, the bank of the Lake will be made so artificially, and there will be very agreeable views across the water, the north shore being the most picturesque part of the park. This is intended to be used more particularly as the promenade or common course of the park. The drive is consequently laid out of unusual width, and the bridle road, together with a broad walk, is carried in close connection with it.

The western foot of the Lookout Hill is one of the most important points on the whole line of drive. It is very desirable that the road should retain its circuit character, and continue on in a northerly direction when the hill is reached, as the whole Lake has by this time been seen, the social or gregarious disposition is supposed to have been satisfied, and a considerable change is therefore needed in the landscape effect. The way in which we propose that this shall be managed will be readily understood by an examination of the plan, and, although the contour lines of the strip of ground proposed to be added in this immediate neighborhood will need to be somewhat modified, the object in view is really so essential to the development of the whole design, that its successful accomplishment will justify any reasonable expenditure that it may be necessary to incur for the sake of securing it. The main drive continues, therefore, in a westerly direction, leaving the Friends' Hill to the northward, and afterwards opening directly upon and keeping in view the most purely rural, and at the same time the most expanded and extended view within the park. On approaching the Ninth avenue boundary, it curves to the east round the green, enters the western woods, divides again into two branches, and, after reuniting, passes on for some distance, still in the midst of groves, until, after passing along the side of the meadow stretch that was viewed in the direction of its length, at the commencement of the drive, it reaches the starting point near the main entrance.

In addition to the circuit drive thus described, a cross road is introduced about the middle of the park, from which will be obtained a fine open outlook towards the country beyond the southern boundary. A loop from this interior road leads to the refectory and across a bridge, over an arm of the Lake, to a carriage concourse of smaller size than the one already described, which it is proposed to construct on somewhat elevated ground, overlooking the Lake and the music stand. A branch from this cross road is proposed to lead up the slopes on the side of the Lookout Hill, to the open area

on the upper level, which will command a view of the ocean. The connections with the various entrances are proposed to be made as shown on the plan, and the whole length of drive thus provided for is about five miles and a half.

The bridle road is so laid out on the plan, that by increasing the size of some archways needed for other purposes, it may, if desired, be kept distinct from the carriage road and the footpaths through the whole length of its circuit. It follows generally the line of the main road, sometimes in immediate connection with it, and sometimes passing along at a considerable distance from it. The whole length of the bridle road laid out on the plan is about four miles.

The drive and the bridle road being thus arranged for, the system of walks proposed by the plan will next require to be described. It is very important to the comfort of pedestrians, that they should be able to proceed into the park from the entrances that will be chiefly used, without having to cross over the circuit drive or bridle road, and that, when once fairly in among the trees and grass stretches, they should be able to ramble over the whole extent of the property with as much apparent freedom as if the whole park had been intended solely for their enjoyment.

There are two points in the design which may be said to be central points, so far as the walk system is concerned: the summit level of the Lookout Hill overlooking the ocean, and the large open air hall of reception shown on the plan, near the principal carriage concourse already described. All the leading lines will be found to tend in these directions, and the intermediate walks are designed to give variety and intricacy, without interfering with this general intention of the design. From the main entrance two walks are proposed to start. One passes near the north-eastern boundary, and leads to the reservoir bridge over Flatbush avenue; it then continues in a southerly direction, skirting the deer paddock, and terminates at the music concourse. A branch of this walk passes under the carriage road, near the main entrance, and opens directly on to the meadow stretch which forms the northern division of the great green. The walk passes around this meadow, and crossing the green, commands a full view of its whole extent; then through the woods into a ravine by the side of the brook and by an arched passage under the carriage road to the lawn-like open ground north of the Lookout Hill; then again through the woods till it meets the line, already described, which leads to the music concourse.

The second walk that starts from the main entrance passes in a rather more westerly direction. It has the same general tendency

as the walks above mentioned, and leads both to the Lookout and to the music concourse.

A walk extends all around the lake and around the green, and a system of walks is introduced to connect the music concourse and the Lookout with the refectory; but it is not necessary to describe all these walks in detail.

From the principal entrance at the junction of Flatbush and Ninth avenues, from the entrance at the corner of Fifteenth street and Ninth avenue, from the foot entrance at the junction of Sixteenth street and the Coney Island road, and from the entrance from Flatbush avenue, near the Willink property, it is proposed to have walks, leading to the principal points of interest, that will not be interfered with by the carriage road. From the other two entrances, surface cross-walks are proposed, as it would be difficult, on account of the embankment that will be necessary to retain the waters of the lake, to adopt the plan used elsewhere.

BOUNDARY ARRANGEMENTS.

Outside the exterior drives and walks, such extent of ground only is needed as is necessary to enable us, by planting and otherwise, to shut out of view that which would be inharmonious with and counteractive to our design. This extent we find in all cases, without carrying the boundary beyond the nearest street line, as laid down on the city map, and except at the two points where the ground, which might otherwise seem to be more than is required to enable us to plant out the boundary, is occupied by the zoological grounds and the deer paddock before described, it will be found that the amount of ground taken into the park, beyond what is absolutely necessary for this purpose, is nowhere equal to the depth of an ordinary lot. Practically there will not be a foot of ground within the boundary the use of which will not add to the interest of the park and its value to the citizens. At one point, the boundary is kept a long distance within the nearest street line. This is where the orchards and villa gardens, on the east of the drive, near the music concourse, admit of a narrower margin than would otherwise answer. The fronts of these valuable grounds near the park are not likely to be built upon before its border trees will have become well grown, nor until a street has been opened along the boundary line. Any buildings then likely to be erected here will consequently be placed at such a distance as not to be conspicuous from the park, while the arrangement enables the city to avoid the purchase of any land

having special value from its association with highly improved residences.

By adopting the line of Franklin avenue for the boundary on the south, about half the space between an observer standing on Lookout Hill and the horizon will seem to be occupied by the lake and the park. This effect will of course be merely an optical one, but a visit to the site will show at once that it will be all-sufficient to divert the attention of the visitor from the land occupied for agricultural purposes, and will serve to render the sea view more attractive. This advantage will be considerably increased, if the ground immediately beyond Franklin avenue should be appropriated for a parade ground, or any other public purpose which will prevent it from being occupied by tall buildings. A nearer boundary than Franklin avenue would probably fail to realize the effect desired in this particular.

It is proposed to widen Vanderbilt avenue to one hundred feet, as far as the limits of the property at present owned by the Commissioners; also to widen Ninth avenue to one hundred feet, as far as the limits of the park are proposed to extend; also to widen Fifteenth street, the Coney Island road and Franklin avenue, as shown on the plan, wherever they connect with the proposed boundary lines. In all these cases, the additional width is proposed to be added on the side of the road next to the park, leaving the lines on the opposite of the road as already laid down on the city map.

On the additional ground thus obtained, it is proposed to construct a thirty feet side-walk, shaded by a double row of trees, so that an ample gas-lighted and umbrageous promenade will be offered to the public in the immediate vicinity of the park, after the gates are closed at night. The comparatively close planting of these avenue trees will moreover help to shut out the houses that will be built on the opposite side of the street from the view of the visitors who may be in the interior of the park.

ARRANGEMENT OF EXTERIOR STREETS.

In conclusion, we wish to offer a few suggestions with regard to the management of some parts of the ground outside of the park boundaries.

Although, for the reasons given at the beginning of this report, we think it desirable that the section of the site, as originally established, lying east of Flatbush avenue, should be abandoned as a part of the park, it does not follow that the lines laid down on the

city map, before the project of a park in this vicinity had been suggested, should be re-adopted, and considerable advantages may be obtained, in our judgment, by adjusting them with reference to the park.

We have indicated on our study the manner in which this may be done. It will be seen that while the streets north of the reservoir follow the old lines, those south of it are set out at right angles to Flatbush avenue, instead of diagonally as formerly; and as Grand and Classon avenues cannot cross the park, they are stopped at Washington avenue.

This district, if re-arranged in the manner suggested, will most probably be occupied to a considerable extent by residences of a first-class character, and as the blocks will be sixty feet more than the usual width, it will be easy in execution, if thought desirable, to subdivide the property in such a way that, while on one street the lots will be of ordinary length, on the other they will be so much longer that ample room will be provided for stables that will have a convenient lane access between the two.

An open place or square is suggested at the junction of Grand and Washington avenues, and Washington avenue is proposed to be widened ten feet along the whole length of the property now owned by the Commissioners. A design is also shown for a possible future improvement opposite the park gate, in the vicinity of the present Willink property, so that Franklin avenue may be included in our general scheme for the arrangement of the approaches to this important entrance. As there is a fine distant view from the top of the reservoir, and as this structure belongs inalienably to the city, we also propose to reserve some of the ground about it so as to be able to flank it with agreeable groups of trees, and to connect it by means of a light foot-bridge over Flatbush avenue with the walks of the park, as indicated on our study. The formation of the ground is suitable for the purpose, and the fine view to be obtained from the upper level of the reservoir can thus be associated with the attractions of the park.

In addition to the principal entrance, provision is made for gates to the park on Flatbush avenue, near the Willink property; on Franklin avenue, near the southeast corner of the proposed boundaries; at the junction of Franklin avenue with the Coney Island road; at the junction of Sixteenth street and the Coney Island road, and from the junction of Ninth avenue and Fifteenth street. Another entrance is indicated on the Ninth avenue, opposite Third street, which can either lead into the park or connect simply with the zoological garden, as may be ultimately determined.

Improvements are suggested, in connection with three of these entrances, which seem to be necessary, for the purpose of securing easy and agreeable approaches; and the advantage proposed to be gained in each case will be so readily understood, by reference to the plan, that we deem further explanations in regard to this part of the design unnecessary.

MUSEUMS AND OTHER EDUCATIONAL EDIFICES.

Although the ground now held by your Commission, east of Flatbush avenue, does not appear to us desirable to be retained for the purpose for which it has been assigned, it will nevertheless be an advantage to the park, if a small section of it, abutting on Flatbush avenue and facing the park, remains in the possession of the city. We therefore desire to offer a suggestion as to the use to which it may be appropriated.

It is undesirable that any duties or responsibilities should be assumed by legislative bodies that can be equally well undertaken by citizens, either individually or associated in their private capacity. The exact limit of judicious legislation in this way cannot, however, be defined, and while there are many public responsibilities that clearly cannot be assumed by individual citizens, and many more that can, there are some few that are of an intermediate character, and that require special consideration. It is, for instance, generally conceded that a system of popular education is an essential part of a republican government, but it is by no means determined what means of education should be secured to all, and to what extent the public can be taxed, with reasonable assurance of a saving to the tax payers through a reduction of taxes for courts, police, prisons and poor-houses, and the general cheapening of the necessaries of life by the increased capacity for productive labor of the whole community which may be obtained through the improvement of the educational system.

It is very desirable, therefore, that plans should, if possible, be adopted by our municipal bodies, which will admit of strict construction, and at the same time be no bar to the progressive improvement of our methods of education. At present, book learning and education are generally considered correlative terms, but the conviction is evidently fast gaining ground in the public mind, which has long been established with those who have given the most thorough consideration to the subject, that, although the ordinary chances of observation may be sufficient to make many branches of knowledge which are inculcated in books sufficiently intelligible, there are

others, progress in which is of special value with reference to the enlargement of the mind and the development of healthy inclinations and habits, which cannot be pursued with much advantage in this second-hand way.

Hence, it may be anticipated that the common school system of a large city will, sooner or later, be generally considered incomplete, unless ample opportunity is found within it for the direct exercise by every student of his perceptive faculties, in regard to a large class of objects not likely to come under his ordinary observation. The idea of education, it must be confessed by all, unquestionably culminates in the development of the reflective faculties, but the reflective faculties—which are secondary—can never, it is obvious, be healthily exercised if the perceptive faculties, which are primary, are neglected and starved.

The question therefore is pertinent, even at present, whether the city, without absolutely assuming the whole expense and the whole control of undertakings for this end, may not wisely offer some encouragement to associations voluntarily formed by citizens for the purpose.

Having some such views in mind as these, when we were preparing the design of Central Park, we advocated the retention of the building near the Fifth avenue and Fifty-ninth street entrance, formerly used as an arsenal, simply because it would probably, if retained, be found to be of sufficient value to be converted into the nucleus of a museum, and although it was very inconveniently located for any such purpose, taking the proposed landscape effects of the park into consideration, we felt that the opportunity was one that ought not to be lost. Our suggestion was adopted by the Commissioners, and the Historical Society has since asked for and obtained possession from them of this site and this building, with the understanding that it is to be improved and converted into a public museum at the expense of the society.

This illustration is presented with no purpose of favoring the introduction of large structures of this character within the limits of a public park, but rather to show that they ought in some way to be provided for in season. The suggestion we have to make in this case is that the stretch of ground abutting on Flatbush avenue, marked R. R., and now in the possession of the Commissioners, should be distinctly set apart for such purposes as we have indicated. If this suggestion is accepted, the lots fronting towards the park on this part of Flatbush avenue will probably, in course of time, be occupied by handsome buildings, the objects of which will in some

way be connected with the educational system of the city, but which will not be erected or owned by it, the terms on which the different sites would be given being such as to secure a share of control in the management of each institution, sufficient to ensure to the city an adequate return for the value of the land it parts with.

SUBURBAN CONNECTIONS.

It will be observed that we have indicated the commencement of a road leading out of the west side of the circle, in connection with the southern entrance to the park. We have done so from a conviction that a shaded pleasure drive, in extension of that of the park, and free from the embarrassments which will inevitably be associated with a road partially occupied by a line of railway, and which is also used as a trotting course for fast horses, will soon be demanded by the frequenters of the park. Such a road, whatever may be the character of the country through which it passes, should be in itself of a picturesque character. It should, therefore, be neither very straight nor very level, and should be bordered by a small belt of trees and shrubbery.

We have made no special survey with reference to the course which should be followed by such a road, but the first objective point in view would unquestionably be the ocean beach, and this might very properly be its terminus. It has occurred to us, however, that either from some point a little further east on the beach, thus made accessible by carriages from the park, or from a point more directly in connection with the park drives, a similar road may be demanded in the future which shall be carried through the rich country lying back of Brooklyn, until it can be turned, without striking through any densely occupied ground, so as to approach the East River, and finally reach the shore at or near Ravenswood. From this point, either by ferry or high bridges, it may be thrown over the two narrow straits into which the East River is divided in this neighborhood, and connection may thus be had with one of the broad streets leading directly into the Central Park, and thus with the system of somewhat similar sylvan roads leading northward, now being planned by the Commissioners of the Central Park. Such an arrangement would enable a carriage to be driven on the half of a summer's day through the most interesting parts both of the cities of Brooklyn and New York, through their most attractive and characteristic suburbs, and through both their great parks; having a long stretch of the noble Hudson, with the Palisades in the middle distance, and the Shawangunk range of mountains in the

back-ground, in view at one end, and the broad Atlantic with its foaming breakers rolling on the beach, at the other.

The whole might be taken in a circuit without twice crossing the same ground, and would form a grand municipal promenade, hardly surpassed in the world either for extent or continuity of interest.

This suggestion forms no part of our plan, and may seem premature, but there can be but little danger of too extended a provision with reference to future improvements which may grow out of so important a work as that upon which your Commission is engaged, and we have, therefore, in the preparation of the design herewith submitted endeavored, as far as possible, to arrange for a proper connection with any undertakings of the character indicated which may hereafter be found to be required.

Respectfully,

OLMSTED, VAUX & CO.,

Landscape Architects.

January 24th, 1866.

THE BATTLE PASS IN 1866.

SEVENTH ANNUAL REPORT

OF THE

COMMISSIONERS OF PROSPECT PARK.

1867.

COMMISSIONERS.

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WALTER S. GRIFFITH,
JOHN H. PRENTICE,
EDWARDS W. FISKE,
TEUNIS J. BERGEN,
ABIEL A. LOW,
SEYMOUR L. HUSTED,
ABRAHAM B. BAYLIS,
THOMAS McELRATH,
STEPHEN HAYNES,
CORNELIUS J. SPRAGUE.

PRESIDENT.

JAMES S. T. STRANAHAN.

SECRETARY.

WALTER S. GRIFFITH.

COMPTROLLER AND COUNSEL.

JOHN N. TAYLOR.

LANDSCAPE ARCHITECTS AND SUPERINTENDENTS.

OLMSTEAD, VAUX & CO.

ENGINEER IN CHARGE.

JOSEPH P. DAVIS.

ASSISTANT ENGINEERS IN CHARGE.

JOHN BOGART. JOHN Y. CULYER.

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AUDITING COMMITTEE.

WALTER S. GRIFFITH,
JOHN H. PRENTICE,
THOMAS McELRATH.

SEVENTH ANNUAL REPORT

OF THE

COMMISSIONERS OF PROSPECT PARK.

To the Honorable the Mayor and Board of Aldermen of the City of Brooklyn:

The Commissioners of Prospect Park respectfully submit to the Common Council of the city, this report of their proceedings for the year 1866. Their last report presented, for the consideration of the Common Council and of the city at large, an enlarged plan for laying out and improving the grounds selected for the park, with an explanation of the design, prepared by Messrs. Olmsted, Vaux & Co., the landscape architects employed by the Board. The plan also set forth the normal condition of the park district, diversified by its broad meadows, its well wooded hills and its picturesque sheets of water; and exhibited its remarkable adaptability to the useful and beneficent purposes for which it is intended. It was accompanied by an exhibit of the manner in which it was proposed to develope its landscape effects, and to open its rides, drives and rambles; and suggested the locations suitable for its zoological and other gardens; its rivulets, lakes and plantations.

Without passing definitely upon the design thus presented, and having in fact no other interest in the matter than such as they hold in common with their fellow citizens, the Commissioners caused it to be printed and extensively distributed throughout the city, and waited a response from their constituents, whose taste and judgment they felt bound to respect. The result fully realized the most sanguine anticipations of the

Commissioners, who had the satisfaction of receiving through an intelligent public press, as well as by the general voice of the people, a hearty approval of the design which had been thus offered for criticism. No material objection was made to any of its prominent features, although valuable suggestions were made, which the Commissioners have since gladly availed themselves of; but the main question had been put, and the public voice had decided in its favor by an overwhelming majority. The tired citizen had here evidently found his beau-ideal of recreation and refreshment; the hopeful invalid, his coveted supply of balmy air; the successful man of business, his quiet afternoon drive; and the artist, the speedy gratification of his taste for the picturesque. Even the landed proprietor found in it an immense addition to the value of his surrounding acres; the economist, an opportunity of increasing the taxable property of the city, and the consequent reduction of individual taxation; while all classes saw clearly the honor and the *eclat* which must inevitably result to our city from the consummation of so noble an enterprise.

The popular judgment was so obviously in unison with their own opinion, as well as with that of their professional advisers, that the Commissioners felt assured that the scheme thus adopted was just what the occasion required, and they at once took measures to carry it forward to a full completion, with all the powers entrusted to them. One portion of the plan, it will be remembered, required an important change in the outlines originally fixed upon for the boundaries of the park, involving a considerable enlargement of the premises, both south and west, beyond the original park limits. Application was accordingly made to the Legislature to authorize the proposed change, and a grant of about two hundred and fifty acres of very desirable land was obtained. Commissioners for valuing the same, and for awarding damages to the owners, were appointed by the Supreme Court, and have now nearly completed their proceedings.

The Commissioners, however, failed to obtain a portion of the land for which they applied, consisting of twelve blocks of land between Ninth and Tenth avenues, extending from Third to Fifteenth streets. A glance at the map will confirm the suggestions made in the report of our landscape architects in

THE BATTLE PASS IN 1776.

relation thereto, and will also show how essential this section of land is to the integrity of the park plan. The failure referred to, was owing mainly to a reluctance on the part of the Legislature to involve the city in the expense of the purchase of this piece of property, unless the necessity of its acquisition was clearly apparent, at a time when the credit of city bonds had not fully recovered from the shock temporarily sustained by the pressure of an immense war debt. The consummation of this purchase was consequently deferred to a more favorable opportunity, being reserved for the action of a subsequent Legislature.

Mature reflection has confirmed the deliberate judgment of the Commissioners as to the eminent propriety, if not the actual necessity, of making this addition to the park. Nor do they perceive that the financial objection exists any longer. They are satisfied in fact, that good economy requires that no further time should be lost in its acquisition, and they therefore propose to renew at the present session of the Legislature the application for permission to annex the land in question.

The Legislature, it is understood, has placed the parade ground, which was recently provided for the military of Kings County, at the expense of the county, under the care and management of the Commissioners of the Park, and Commissioners appointed by the Supreme Court are now engaged in estimating the value of the property. The land selected for the purpose consists of forty acres admirably adapted for military displays, and lies immediately adjoining the park, on the south. A parade will show to great advantage from the adjacent hills in the park, and will add much to its attraction; while the land itself, by judicious management, can, not only be tastefully laid out and planted, but will virtually add a new section to park territory.

Several interesting relics have recently been developed upon the Revolutionary battle-field, which constitutes a portion of the park. Balls and bones are frequently turned up by the workmen, in the progress of their excavations, marking the spot where once the tide of battle surged. The little bluff on the east, commanding the Flatbush and old Port roads at their junction in the Valley Grove, was the site of a small two-gun battery, which enfiladed the former road, up which the Hessians

marched to assault Sullivan's lines on the memorable morning of the 27th of August, 1776. A few rods in front of this battery, and almost in the center of the Flatbush road, stood the Dongan Oak—a famous landmark—which was felled on that morning to obstruct the passage of the enemy between the hills. This location will be easily recognized as the roadway immediately in front of the old Valley Grove Tavern, leading southerly into Flatbush. The battle pass, with the site of the redoubt, will be carefully preserved and distinctly marked for the veneration of future generations.

Soon after the organization of the present Board, the attention of the Commissioners was drawn to the extravagant expenditures that frequently attended proceedings to perfect the title to land taken for public purposes. They found that the fees and expenses of Commissioners of Estimate and Assessment were entirely unchecked by any legislative enactment, and they determined to correct the evil as far as possible. For this purpose they caused a provision to be inserted in the Act of 1865, which reserved to themselves the selection, and the consequent adjustment of compensation, of the clerks, surveyors, and attorney to examine titles, necessary for the use of such Commissioners; and also required them to have their fees and expenses taxed by the Supreme Court. This taxation can now be done only after giving ten days' notice of the application therefor in two of our public prints; thus giving every taxpayer in the city an opportunity of appearing before the court on the taxation, and stating his objections thereto. A provision was also inserted in the act dispensing with the services of the City Counsel, who had usually acted for Commissioners of Estimate and Assessment on the presentation of their report for confirmation, and who finally certified to the City Comptroller for payment, their awards for damages, after confirmation. These duties were by the same act devolved upon the counsel to this Board, who, being a salaried officer, now performs the service without additional charge. A similar provision was inserted in the Act of 1866, under which the Commissioners of Estimate and Assessment, appointed to value the recent additions to the park, are now acting, and the result has already been the saving of many thousands of dollars to the city.

Immediately after the adoption of the new plan of improve-

ment, arrangements were made for active operations upon the park. The Board had previously distributed its general administrative duties between three standing committees. To the first, it entrusted the duty of supervising its finances, of providing from time to time the means required for the prosecution of the work, and of reporting monthly to the Board the exact condition of its finances. To the second, was committed the general management of the work ordered by the Board, and the purchase and disposition of all property pertaining to the commission. While to the third, was allotted the task of auditing all bills and claims for services and materials, with the supervision of its books of account. The executive departments of the work were organized by appointing Mr. John N. Taylor Comptroller, who also acts as counsel to the Board; and by selecting the landscape architects, above referred to, as superintendents of the work, under the direction of the Executive Committee. The latter gentlemen were at the same time instructed to prepare the details of the park plan which had been adopted, and to organize a working force sufficient for its execution. The Board also appointed Mr. Joseph P. Davis, of the Nassau Water Works, Engineer in charge of operations on the park, and Mr. John Bogart and Mr. John Y. Culyer, his principal assistants.

After any given measure has been discussed and determined upon by the Board, its execution is referred to the appropriate committee, which personally supervises the performance of the duty by the department charged with the work. Purchases of tools and materials are made by agents selected with special reference to their experience in obtaining the article required, under the direction of the Executive Committee and the superintendents. The market is canvassed for the lowest cash price —quality considered. The articles purchased are weighed, counted or measured, and delivered at the park office, where a full register is kept of everything received and given out for use on the park; and the bills, after having been duly certified, are forwarded to the office of the comptroller.

No bills are paid without: First, a certificate of the superintendents that they have been authorized by the Executive Committee to make the purchase; second, a certificate of the purchasing agent that he made the purchase under the direc-

tion of the superintendents, at the prices named in the bill; third, a certificate of the officer charged with the safe keeping of the property of the commission, that the articles in question have been received in good condition, and that the bill has been compared with the register of bills kept in his office, and the extensions and footings examined and found correct; and, lastly, a certificate of the comptroller that the expenditure has been authorized by a resolution of the Board of a particular date, specifying the same. The bills for the current month then pass to the Auditing Committee, who examine the same, and report thereon to the Board at its next meeting, when, if found correct, payment is ordered. After payment is ordered by the Board, checks are drawn by the president and secretary, specifying the particular object for which they are drawn, payable to the order of the comptroller, who endorses them over to the persons respectively entitled to receive the same, taking proper receipts therefor.

The routine for the payment of salaries and the pay-rolls of engineers and laborers is quite similar to that for the payment of bills, except that the disbursement of the money is made by or under the direction of the Comptroller. These formalities tend to establish a strict personal accountability for every item of debt incurred on park account, while they guard against useless or improvident expenditure.

As to the amount of work performed thus far, the Commissioners beg to refer to the report of the Superintendents, which accompanies this report, and to the map thereto annexed, delineating its progress. In general, however, it may be stated that their efforts have been directed mainly to the drainage of the grounds; to the grading of the Plaza or principal entrance; to the opening of the principal drives from the Plaza towards the Coney Island road, and to the collection of trees and shrubbery for future use. The actual progress made in these operations will be readily seen upon the map referred to, and by reference to the detailed statements in the reports of the respective engineers in charge.

An abstract of all the returns of labor made to the Comptrollers' office by the Superintendents, will show the actual amount of labor bestowed upon the park since the work began; the number of men employed, varying from time to time, aver-

aging, however, about 642 numerically, but in actual force 451 men for the whole time.

Annexed to this report will be found a copy of an ordinance, which the Board adopted soon after the organization of the working force, for its better regulation and government. Its penalty was made to conform to the existing law which established the park, but does not interfere with additional or other punishment, for offences committed on the park, in violation of Municipal or State laws.

Late on the evening of the 4th of December, a fire broke out in the engineer's office, near the entrance to the park, which, owing to the prevalence of a gale of wind blowing at the time, and to the difficulty experienced by the fire department of the city in procuring a sufficient supply of water in that remote district, quickly destroyed the entire premises. The cause of the fire was quite accidental, but the activity and energy of the engineer in charge and his associates, preserved all the working plans, field notes and valuable papers, including the returns of time and accounts kept with the laborers, which had been deposited in the iron safe. The pecuniary loss amounted to about six thousand dollars, but no interruption to the progress of the work was occasioned by the fire.

A financial statement of all the receipts and expenditures of the Commission during the past year, will be found annexed to this report, showing the whole outlay, during that time, to have been one hundred and ninety-five thousand seven hundred and one dollars and ten cents.

The whole is respectfully submitted.

Dated January 26th, 1867.

J. S. T. STRANAHAN,
President.

WALTER S. GRIFFITH,
Secretary.

JOHN N. TAYLOR,
Comptroller.

An Act to extend the boundaries of Prospect Park in the City of Brooklyn.

Passed April 30, 1866; three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. The Board of Commissioners of Prospect Park, in the city of Brooklyn, are hereby authorized, for and in behalf of the said city, to acquire title to all those certain pieces or parcel of land, situated partly in the said city and partly in the town of Flatbush, beginning at the easterly corner of the Tenth avenue and Ninth street, and running thence southwesterly along Tenth avenue to Fifteenth street; thence southeasterly along the northeasterly side or line of Fifteenth street, to a point distant one hundred and sixty-one feet and ten inches northwesterly from the intersection of the said line with a line made by extending the easterly side of the Coney Island road as now laid out between Franklin avenue, in the town of Flatbush so called, and Braxton street, northward; thence southerly upon a curved line of three hundred and ninety feet radius, to a point on said curve at which it coincides with and becomes tangent to the said easterly line of the Coney Island road extended as aforesaid; thence southerly on said extended line to a point in the circumference of a circle of one hundred and ten feet radius, of which the center rests upon the middle line of Sixteenth street at a point distant twenty-seven feet and six inches westerly from and at right angles to said extended line; thence westerly and following the circumference of said circle until it again intersects the said extended line; thence southerly upon said extended line and along the said easterly side of said Coney Island road to a point distant two hundred and seventy feet and three inches northerly from the present northeast corner of said road and Franklin avenue; thence westerly upon the circumference of a circle of two hundred and forty-five feet radius, having its center at a point in said Coney Island road which is distant twenty-seven feet and six inches westerly at right angles from the easterly side of said road, and following said circumference to its intersection with the northerly line of Franklin avenue; thence easterly along said avenue to the plank road in the village of Flatbush; thence northerly on the westerly line of said plank road twenty feet; thence westerly and parallel with Franklin avenue six hundred and fifty feet; thence northerly in a direct line to a point which is distant twenty feet westerly at right angles from the northwest corner of a workshop standing on the boundary line of the lands of Cornelia A. Willink, deceased, and Elizabeth Ludlow, and the lands of John Lott, de-

ceased; thence again northerly in continuation of said direct line until it meets a line drawn westerly at right angles to Flatbush avenue from a point on the westerly side of said avenue, which is distant six hundred feet southerly from the intersection of said avenue with the southerly boundary of said park; thence easterly on said right angled line to Flatbush avenue; thence northerly along said avenue to the southeasterly boundary of said park; thence southwesterly along the southeasterly line of said park to the southwesterly corner thereof; thence northwesterly along the southwesterly side of said park to the Tenth avenue, at the place of beginning. Excepting and reserving out of the above described lands and premises all those certain pieces or parcels of land now occupied by the religious societies of Friends for a cemetery, bounded and described as follows: Beginning at a point in the central line of the Eleventh avenue which is distant one hundred and twenty-five feet northeasterly from the intersection of said central line with the northeasterly side or line of Fourteenth street, running thence northeasterly along said central line of said avenue five hundred and six feet and eleven inches; thence southeasterly to a point on the northwesterly side of the Coney Island plank road which is distant two feet and nine inches southwesterly from Eleventh street; thence southwesterly and parallel to Eleventh avenue to a point which is distant one hundred and twenty-five feet northeasterly from Fourteenth street, and thence northerly parallel to Fourteenth street to the place of beginning.

§ 2. The lands described in the last preceding section of this act (omitting the reservation therein contained) are hereby declared to be a public place, and shall be deemed to have been taken by the said city of Brooklyn, and to have been opened for public use as an additional part of Prospect Park; and from and after the passage of this act the said lands shall be annexed to, and shall form a part of the said city, and of the Commissioners' map of the said city, and shall be laid down upon said map as if the same had been taken and declared open as a park, pursuant to the provisions of the act entitled "An Act to revise and amend the several acts relating to the city of Brooklyn," passed April fourth, one thousand eight hundred and fifty; and all streets, avenues, and highways intersecting the said lands, or any parts thereof, except Ninth avenue and Fifteenth street and the Coney Island road, are hereby closed and discontinued, and are stricken from the said Commissioners' map, so far as they run through or intersect the said lands; and Fifteenth street is hereby extended at its present width southeasterly, parallel with the southwesterly boundary of the said park, through the hereinbefore described circle, having a radius of one hundred and ten feet, until the said street meets the Coney Island road, and shall be so laid down on the said map.

§ 3. Whenever the right of the said Board of Commissioners to enter upon that portion of the property of the said society of Friends hereby authorized to be taken, shall be perfected, the said Commissioners shall provide and open a suitable and sufficiently commodious

passageway, at least twenty feet wide, from Fifteenth street to the said cemetery, for the common use of all the societies of Friends occupying the same, so long as they shall continue to use it as a cemetery; and no assessment for benefit, hereinafter directed to be made, shall be levied or collected upon the residue of the property now used as a cemetery, so long as the said ground shall continue to be a cemetery or place of interment. The said Board of Commissioners may at any time agree with the said societies of Friends for the purchase of the said property, or any part thereof, and the valuation of the same, with the damages the said Friends may sustain by reason of their removal therefrom; and upon such contract being reported to the Comptroller by the said Board, with a proper certificate of their counsel as to title, the Comptroller is hereby authorized to pay the same, and may issue such additional bonds as may be necessary to complete the purchase thereof, in the same way and subject to the same redemption as other bonds directed to be issued under this act. And whenever the said purchase shall be completed and the property conveyed to the city, any assessment that may have been laid thereon by Commissioners of Estimate and Assessment under this act shall be canceled, and the said property shall become a portion of Prospect Park, and be under the exclusive control and management of the Board of Commissioners, in the same way and to the same extent as other portions of the said park now are or may at any time be.

§ 4. The Coney Island and Brooklyn Railroad Company is hereby directed to remove its railway tracks from Fifteenth street, and is authorized and directed to lay such tracks upon Sixteenth street, or upon Braxton street, or upon both said streets, at its option, and to continue said tracks through said streets to Ninth avenue; thence through said avenue to Fifteenth street; thence through Fifteenth street to Sixth avenue, and thence through said avenue to Ninth street, and also through Ninth street, and also through Ninth avenue from Ninth street to Braxton street, and to operate their road and run their cars over the same. Braxton street and Sixteenth street and Sixth avenue and Ninth avenue shall be opened and graded so far as may be necessary for the purposes of said railroad, whenever the said railroad company shall make application therefor to the proper authorities; and the grade of Braxton street is established as follows, that is to say: One hundred and fifty feet above high water mark at Ninth avenue; one hundred and thirty-two feet at Tenth avenue; one hundred and fifteen feet and six inches at Eleventh avenue; and ninety-eight feet at the City Line, at its junction with the Coney Island road.

§ 5. The said Board of Commissioners may apply to the Supreme Court in the Second Judicial District for the appointment of five Commissioners of Estimate and Assessment, relating to the lands and premises hereby authorized to be taken, and the court shall thereupon proceed as directed by an act passed May second, eighteen hundred and sixty-one, entitled "An act to amend an act entitled 'An act to lay out a public park and parade ground for the city of

Brooklyn, and to alter the Commissioners' map of the said city, passed April seventeenth, one thousand eight hundred and sixty.' " The Commissioners so to be appointed shall estimate the value of the lands and premises required to be taken by this act, and the loss and damage to be sustained by the owners and other persons interested therein in consequence of their relinquishing the same to the city; and after their report thereon shall have been confirmed by the court, they shall apportion such part thereof, together with such part of the amount of the several awards, with the expenses heretofore reported to and confirmed by the said court for lands heretofore taken for said park, as they may deem equitable, upon any lands in said city specially benefitted thereby in proportion to such benefit. The one-twentieth part of the amount thus apportioned for benefit shall be annually assessed upon the particular lands chargeable therewith, as designated in the report of the said Commissioners, and shall be annually included in the taxes to be levied thereon, and shall be levied and collected like other taxes upon property in the said city. The proceeds of such collections shall be paid to the Commissioners of the Sinking Fund of said city, to be applied to the redemption of all bonds issued and to be issued for the purchase and improvement of lands taken and to be taken for the said park.

§ 6. The Commissioners of Estimate and Assessment appointed under the act mentioned in the last preceeding section of this act, as well as those appointed under an act entitled "An act to change the boundaries of Prospect Park, in the city of Brooklyn," passed April twenty-eighth, one thousand eight hundred and sixty-five, are hereby discharged from the performance of all further duties under those acts; and all services, acts, and duties which are thereby directed to be done and performed by the said Commissioners, and which yet remain unperformed in relation to assessing damages, or otherwise, are hereby devolved upon and shall be performed by the Commissioners who are to be appointed under this act. The expenses, fees, and compensation which the said several Commissioners and their employees may be entitled to receive in pursuance of the said several acts, and not yet received by them, shall be added to and be paid as a part of the general expenses incurred and to be incurred for the opening of the said park; and the Comptroller of the said city is hereby directed to pay the same out of the Prospect Park fund in his hands, as soon as the same can be properly taxed as hereinafter provided, and certified by the counsel of the Board of Park Commissioners; and for this purpose and to this extent he is authorized to increase the issue of park bonds under the act last above mentioned, if necessary.

§ 7. The Commissioners of Estimate and Assessment who are to be appointed in pursuance of this act shall have all the powers, and authority, and shall be entitled to the same compensation that is conferred upon or allowed to the Commissioners referred to in the several acts last above mentioned, and any act amendatory thereof. And the Board of Commissioners of Prospect Park may

employ an attorney and surveyor for the purposes of this act, whose compensation shall be included in the general expenses to be incurred under this act; and the awards for lands to be taken pursuant to this act shall be payable upon the certificate of the counsel of the said Board.

§ 8. No expenses, fees or compensation shall be allowed under this act, unless the same shall have been duly taxed as herein provided, and for the purpose of such taxation the said Commissioners shall return to the said court the several items thereof, and the amount incurred by them respectively, as well as by the said attorney and counsel. They shall at the same time give notice in two of the daily newspapers published in the city of Brooklyn, for ten days successively, of their intention to present the same to the said court for taxation at a special term thereof to be therein designated. And any taxpayer of the said city may appear upon such taxation and show cause why the said expenses, fees, or compensation, or any portion thereof, shall not be allowed; and it shall be the duty of the court to examine the several items thereof, and to tax and adjust the same for such amount as in its judgment shall be just and reasonable.

§ 9. The payment of all damages to be awarded by the said Commissioners of estimate and assessment, as well as the general expenses authorized to be paid by this act, shall become due and payable immediately after the confirmation of their report thereupon. And the title of the lands mentioned or referred to in their report upon valuation shall, immediately after the confirmation thereof by the said court, vest for ever in fee simple absolute in the city of Brooklyn, and the said lands shall thenceforth form a part of Prospect Park, and be under the exclusive management and control of the said Board of Commissioners, in the same manner and to the same extent as the other portions of the said park now are or may at any time be under the management or control of the said Board.

§ 10. For the payment of awards so to be made by the said Commissioners, and for the payment of the said general expenses, fees and compensation, as well as for the payment of the expenses of managing and improving the said park, the bonds of the city shall from time to time be issued in the manner directed by the act referred to in the fifth section of this act; and such bonds, and also all other bonds which may hereafter be issued under the provisions of the two several acts mentioned or referred to in the fifth and sixth sections of this act, may bear an interest not exceeding seven per cent. per annum, payable semi-annually. And for the redemption of the said bonds, as well as for the redemption of the bonds issued and to be issued under the provisions of the said acts, with interest, all lands embraced within the boundaries of the said park, including those taken under this act, are hereby specifically pledged.

§ 11. All the provisions of the act referred to in the fifth section of this act, and of any act amendatory thereof relating to the issue, use and sale of bonds, and the redemption thereof, with the interest to accrue thereon, as well as in relation to the taking and paying for

the lands and premises referred to in this act, and the duties, powers and authority of the said Board of Commissioners, as well as of the said Commissioners of Estimate and Assessment, and their appointment and proceedings, including the confirmation of their reports by the Supreme Court, which are not incompatible with the provisions of this act, shall apply to all bonds and authority that may be taken or exercised under this act.

§ 12. This act shall take effect immediately.

PARK ORDINANCE, No. 1.

The Commissioners of Prospect Park, in the city of Brooklyn, do ordain as follows:

Article I.—All persons are forbidden,

1. To take or carry away any sod, clay, turf, stone, sand, gravel, leaves, muck, peat, wood, or anything whatever belonging to the park, from any part of the land embraced within the boundaries of the park;

2. To climb upon, or in any way cut, injure, or deface any tree, shrub, building, fence, or other erection within the park;

3. To turn cattle, horses, goats, swine, or poultry of any description upon the park;

4. To carry firearms, or to throw stones or other missiles within the park;

5. To hinder or in any manner delay or interfere with men employed upon the park;

6. To expose any article or thing for sale, or engage in any picnic or game upon the park, except by permission derived from the Board of Commissioners;

7. To post or otherwise display any bill, notice, advertisement, or other paper or device upon any tree, structure, or other erection within the park, or upon any of its inclosures.

Article II.—Any person who shall violate or offend against any of the provisions of the foregoing article, shall be deemed guilty of a misdemeanor, and shall be punished on conviction, before any court of competent jurisdiction in the county of Kings, by a fine not exceeding fifty dollars, and in default of payment, by imprisonment not exceeding thirty days.

FINANCIAL STATEMENT

OF THE

COMMISSIONERS OF PROSPECT PARK,

To January 1st, 1867.

Balance on hand, December 31, 1865		$8,796 10
The total receipts of the year ending December 31, 1866, are as follows:		
From the Treasurer of the city of Brooklyn, July 10, 1866...	$100,000 00	
" " " Oct. 8, 1866...	200,000 00	
" interest on deposits, Dec. 27, 1866.	2,064 63	
" sale of old material.....	10 00	
" " houses on park	1,145 00	
" rents of " "	3,884 81	
" sale of drainage pipe.....	2,618 37	
" Supervisors of Kings county for office fixtures.....	500 00	
		$310,222 81
		$319,018 91
The total expenditures for the year ending December 31, 1866, are as follows:		
Paid salaries and compensation of officers and clerks.....	$10,087 36	
" engineers, architects, draughtsmen, &c.....	24,792 77	
" incidental expenses	1,550 99	
" materials of construction and tools.	21,208 86	
" stationery, printing, advertising, drawing materials, &c.....	1,832 70	
" fitting up offices, furniture, rent, &c.	2,441 28	
" laborers, mechanics, cartmen, &c..	132,660 65	
" surveyors' instruments	1,050 25	
" repairs of houses on park.....	43 74	
" auctioneer's fees and charges on sales of houses.....	32 50	
		$195,701 10
Balance in bank		123,317 81
		$319,018 91

JOHN N. TAYLOR,
Comptroller.

REPORT

OF THE

LANDSCAPE ARCHITECTS AND SUPERINTENDENTS.

To the President of the Board of Commissioners of Prospect Park, Brooklyn:

Sir: On the 29th of May last we were appointed by your Board Landscape Architects and Superintendents of the park, and were requested to consider various portions of its design in detail with reference to an early commencement of the work of construction.

On the 16th of June we were instructed to organize, as soon as possible, with the sanction of the Executive Committee, a practical system of operations under which the work might be proceeded with at suitable points during the remainder of the season.

The necessary preliminaries having been settled, a small body of laborers was set at work on the 1st of July, since which time the force has been engaged in developing such leading features of the plan as it was practicable from time to time to take up.

Our preliminary study contemplated the addition to the park domain of the track between Third and Fifteenth streets and Ninth and Tenth avenues; but as this section was not included in the enlargement provided for by legislative enactment last winter, the satisfactory development of the plan on the ground has been somewhat interfered with. All the lines in the neighborhood of the Litchfield property have had to be stopped short, or so arranged that they would apply to the scheme of roads as originally designed, in case that ground should be acquired within a reasonable time, and also admit, without readjustment, of adaptation to the present

contracted boundary line, if this course should be found absolutely necessary. In accordance with instructions received at the outset, we studied the road lines that would have to be followed in the event of the present boundaries being adhered to, but the result was entirely unsatisfactory; and we feel so well assured that it is to the public interest that the ground under discussion should be included in the park limits, that we think it our duty again, at this time, to urge the proposition on your attention, so that before Spring, if possible, the necessary legislation may be obtained, and all doubts dispelled in reference to the ultimate engineering lines of the main circuit drive.

The territory to the south and west, appropriated to the park by the Legislature of last Winter, not being yet in the actual possession of your Commission, operations have been necessarily restricted to a limited section at the north end.

A portion of the carriage drive and of the bridle road has been laid out and sub-graded, and the extent of the work thus done is set forth in the annexed progress map. Although the lines originally suggested in the preliminary study have been somewhat varied in execution, no serious modifications have yet resulted from the preparation of the plan in detail upon the working surveys. It has, however, been found practicable to amplify the system of drives passing through the woods south of the Old Battle Pass, and we have thus been able to effect a reduction in width of the separate branches without lessening the actual accommodation. By this means greater advantage is obtained from the shade offered by existing trees than would be possible if the full width of forty feet were everywhere adhered to.

A central fountain basin, 160 feet in diameter, has been added to the plan of the Plaza, which forms part of the principal entrance.

The main outlines of this portion of the design have been accurately adjusted, and the necessary changes of grade are now in process of execution.

In the preliminary study, the northerly section of the Plaza was left open, but further study has led us to recommend that it should be enclosed and planted, to correspond with the arrangements adopted on the east and west sides, and that a considerable stretch of ground, which is suitable for the purpose, should be treated as an extension of the sidewalks leading in the directions of Flatbush and Vanderbilt avenues to the park. The space thus appropriated

will be in a very conspicuous and central position, and is sufficiently extensive to admit of its being used for open-air public meetings, that would be out of place if held either in the crowded thoroughfares of the city, or within the limits of the park proper. The plan of the Plaza, as now arranged, contemplates the erection, at some future time, of important monumental designs on the right and left of the principal entrance to the park. If one of these sites should be selected for the proposed statue of President Lincoln, it is hoped that the other would be reserved for a statue of Washington.

In the preliminary study, a small portion of ground attached to the reservoir site, on the east side of Flatbush avenue, was proposed to be improved, and a foot bridge was planned to connect the reservoir with the main park. This portion of the design, in accordance with our instructions, has not been included in any operations that have been commenced, but we have taken the opportunity to give further study to the subject; and the modified plan, sometime since submitted for your consideration, and now appended to this report, embodies the latest suggestions that we have to offer in regard to this district. It proposes that the area to be improved shall be somewhat extended, so as to make provision for an agreeable promenade to be entered directly from Washington avenue, the position of the proposed foot bridge being changed, so that it now takes a prominent place in the arrangement of the new approach.

In our preliminary study we proposed that Vanderbilt avenue should be widened to 100 feet, so far as the property of the Commissioners extended, the object being to improve, as far as possible, the approach from the city in this direction. It will be seen, however, by reference to the map of Brooklyn, that within a few blocks of the park an awkward crook occurs in Vanderbilt avenue, and that the avoidance of this, by an extension in a straight line to Clinton avenue, would be very expensive. As, moreover, horse railroads will probably be laid, sooner or later, on both Vanderbilt and Ninth avenues, neither of these thoroughfares will, when the city is built up, be entirely desirable routes for a large concourse of pleasure vehicles.

Taking all these circumstances into consideration, we have been desirous to lay before you some suggestion for an improvement in this portion of the general design that would be acceptable in its character, and not too costly for practical application.

Clinton avenue, which is eighty feet wide, would undoubtedly form a very agreeable approach to the park, It is at present en-

tirely blocked up at its point of intersection with Atlantic avenue, but an examination of the intervening district shows that it might, by judicious arrangement, be extended in a nearly direct line to the Warren street boundary of the park property, without passing through any ground now occupied by valuable buildings.

We have, therefore, made a fresh study, which we herewith lay before you, of an arrangement of street lines within the district now under your control northeast of the plaza, so as to include the suggested extension of Clinton avenue in our general scheme of approaches to the principal gateway of the park.

It will be observed, on an examination of the modified plan, that the whole design is now more symmetrical than it was as originally presented, the junction of Clinton avenue, with the plaza on one side, as proposed, corresponding with the junction of Douglas street, with the plaza on the other side—as now laid down on the city map.

It will also be noticed that, after crossing Underhill avenue, Butler, Douglas and Degraw streets are now arranged to approach the park on lines more direct than those indicated on the preliminary study submitted for consideration last year.

It would undoubtedly add much to the value of the park if it could be reached, by citizens living at a distance, through liberally conceived approaches which were, in all their extent, convenient and pleasant to walk, ride or drive in. But the value of the property which would have to be acquired by the city, and of that which would necessarily be destroyed in forming an improvement of this character through any part of the region west and north of Prospect hill, is now so great that no scheme for the purpose would be likely to meet with favor. It is, however, not too late to consider whether routes approaching the park and connecting its drives with other points, in which your constituents will have special interest, may not be laid out beyond that part of the city in which the value of land is already so great as to make such undertakings formidable.

In our preliminary report we suggested routes leading from the south-western part of the park toward Fort Hamilton and Coney Island. We have since observed that an avenue likely to be, at no distant day, quite as useful as either of these, might be formed between the eastern gate of the park and the high land about the Ridgewood reservoir, following the present city line. When the streets now planned in this vicinity shall have been once opened, it

will be impossible to lay out a spacious and attractive roadway leading in this direction without destroying very valuable property. During the next two or three years, however, it would probably be found practicable to make such local modifications in the general street system as would leave it no less convenient than at present, and yet would allow of the introduction of a broad boulevard, shaded by agreeable plantations, and adapted for use as a pleasure drive, ride and walk. The route suggested would make frequent curves and considerable inequalities of surface desirable, and this circumstance would operate to prevent its general use for any other purpose than for pleasure travel and access to the buildings by which it would be lined.

Even if it should not be thought expedient to undertake such an improvement immediately, the ground might be secured and the city map modified with reference to its construction in the future. It would practically extend the park to the rear of Williamsburgh, and, at a comparatively low price, would add much more to its real utility than any equal area of land that could now be secured on its immediate border.

Up to this time, those who have built expensive houses in the districts which lie much to the eastward, of the present centre of population of the city, have evidently been led to do so, because the opportunity has here been offered, to lay out villa residences on a liberal scale, which is not elsewhere practicable within the city limits, or on New York island, within equal distance of Wall street.

It is, doubtless, for the interest of the city of Brooklyn that such men should not be driven beyond its limits, and that others of similar tastes should be attracted to build within them, an object which would be greatly aided by the opening of spacious and agreeable suburban thoroughfares, especially if these were so designed as to practically secure the advantages of proximity to the park to all who should live near them.

The various duties of superintendence of work on the park are, for the sake of convenience, divided into two classes, each supervised by an assistant engineer, and both comprehended in the more general responsibility of the engineer in charge.

The first includes the duties of the topographical survey, the elaboration of the designs in working drawings and details of measurement, in exact correspondence with the data furnished by the topographical survey; the transference of the designs in this form to the ground in such ways as may be required to enable the

workmen to understand each his respective part in the constructive labor; and such a supervision of the working force as is necessary to secure the intended result in all particulars, together with the measurements, calculations and records, upon which our knowledge is assured, of the degree of economy with which the work is proceeding.

The second includes the adjustment of the force to the various duties required to be performed by recruiting, by transfers, and by discharges; the discipline of the force by cautions, reproofs, suspensions and discharges; the detail of time-keeping, and the precautions used to prevent fraud and disorder.

Mr. John Bogart, Civil Engineer, is in immediate charge of so much of the organization as relates to the first of these departments; Mr. J. Y. Culyer, Civil Engineer, of so much as relates to the other.

Mr. J. P. Davis, Civil Engineer, has a general executive charge over all, and is also looked to for the solution of problems arising on the work, which belong strictly to his special professional responsibility. His report, with those of his assistants, is herewith appended.

We have every reason to be satisfied with the manner in which we have hitherto been aided in the study of our task, and with which our instructions have been carried out, and if thought desirable, are prepared to enlarge the scale of operations upon the ground in the spring with entire confidence, based upon the experience we have now had, in the ability and zeal with which we shall be sustained, not only by the gentlemen whom we have named, but by all who are engaged in the service of your board.

Respectfully,

OLMSTED, VAUX & CO.,
Landscape Architects and Superintendents.

OFFICE OF DESIGN AND SUPERINTENDENCE,
January 1*st*, 1867.

REPORT

OF

ENGINEER IN CHARGE.

ENGINEER'S OFFICE, PROSPECT PARK,
January 1st, 1867.

Messrs. OLMSTED, VAUX & CO.,
Landscape Architects and Superintendents.

Gentlemen,—The accompanying reports of Mr. Bogart and Mr. Culyer, together with the annexed maps, give full information relative to the progress that has been made in the surveys and construction of the park, the condition of the materials and tools on hand, and the organization and discipline of the labor force.

It will be seen, by reference to the progress map, that the topographical survey of the original surface is not yet complete. This work will be pushed forward as vigorously as the other duties of the assistants, connected more immediately with actual construction, will permit, and it is hoped that the necessary data will be collected and recorded upon the map before the opening of work in the spring.

The labor force has been chiefly employed in grading and in collecting materials, such as soil, peat and stone, for future use.

The price of excavation has varied from 12 cents to $1 20 per cubic yard, depending upon its character, its final distribution, and the length of haul.

The force employed exclusively upon earth excavation has cost $106,600, of which 43 per cent. has been paid to cart gangs, and 57 per cent. to barrow gangs.

The average cost of excavating, moving, and disposing of material of all kinds, since the commencement of work in June up to the present date, has been nearly five cents less than the average up to the 1st of September.

The average haul has been greater since the 1st of September than before, but there has been a less proportion of difficult excavation, such as of clay, for deep sewer trenches, &c. The reduction of the average cost is in part due to this last fact, but chiefly to the better discipline of the labor force.

Such sewers have been laid as were required to conduct away the water from the surfaces being graded. It is not advisable to determine the details of the system of sewerage until the grades of a larger surface are definitely established.

Owing to the peculiar conformation of the ground selected for the park, giving, as it does, deep valleys or hollows with no natural outlets, the cost of drainage will necessarily be large, both in trenching for sewers and in shaping the ground for proper surface drainage.

Several thousand feet of roads and paths have been sub-graded, but no portion has yet been surfaced with road metal. A force, however, is now being organized for breaking and preparing the stone for that purpose.

In the upper portion of the park, in order to lessen the amount of excavation, the roads have been graded for short distances as steep as one in twenty-five. Still, owing to the comparatively low grade of Flatbush avenue, from which it was necessary to start, and to the elevation of the park ground opposite the reservoir—owing also to the very rough condition of the adjoining ground, caused in part by the excavation made for clay used in the construction of the reservoir—the expense for grading has necessarily been large. On the west side the amount of excavation has been still further increased by the existence of a peat bog over which the drive passes. To secure a good foundation, this peat has been taken out, and its place supplied by material taken from a broad, low hill that obstructed the view over a considerable portion of the park, from near the entrance.

In the general management of the matters entrusted to my charge, I have been very efficiently aided by Mr. Bogart and Mr. Culyer, in their respective departments.

Respectfully submitted,

JOS. P. DAVIS,

Engineer in charge.

PARK COMMISSIONERS, CITY OF BROOKLYN,
ENGINEER'S OFFICE, January 1st, 1867.

JOS. P. DAVIS, ESQ.,
Engineer in charge:

Sir: The following is a statement of the progress and amount of work done upon the park, from the beginning of operations, in June, 1866, up to January 1, 1867:

THE TOPOGRAPHICAL SURVEY.

A careful topographical survey of the park grounds being commenced, several base lines were measured at suitable intervals, and from these a rectangular system has been established, extending over the whole area. With this as a base, levels have been taken, and from the data thus obtained, topographical maps constructed, exhibiting accurately the variations of surface by means of contour lines, drawn at intervals, to show each foot of elevation. This work is complete for a large portion of the park. The area, the topography of which has been finished, is shown upon the accompanying map, where contour lines are drawn, representing variations of ten feet in elevation.

The rectangular division of the surface of the park is also used as the basis for the survey and location of the drives, bridle roads, walks, and drainage systems, and is of great assistance to the engineers in giving working grades for shaping ground, and in making up estimates of work proposed or finished.

GRADING OF DRIVES, BRIDLE ROADS, WALKS, AND MEADOWS.

The construction force has been mainly engaged in making the necessary excavation and filling for grading the Plaza exterior to the main entrance, at junction of Flatbush and Ninth avenues, the drives, bridle roads, and walks running from the entrance into the park and the meadow surfaces at the northern portion of the grounds.

The whole area, which has been worked over, is about sixty-one acres. Of this, about twenty-eight acres have been brought to subgrade, requiring only the addition of soil to bring that portion to the proposed final surface. The location and extent of the area worked over, are shown upon the progress map by line shading.

Seven thousand eight hundred lineal feet, or about one and a half miles of drives have been laid out and worked, of which five thousand seven hundred lineal feet have been brought to sub-grade, ready for the road metal. The larger portion of this is the eastern branch of the main circuit drive, extending from the entrance of the park to the high land near Flatbush avenue; thence through the wooded defile, past the Deer Paddock, and by several branches through the woods. A small portion of the western branch of the circuit drive has been also graded.

One thousand three hundred and seventy-five feet of bridle roads and one thousand eight hundred and seventy-five feet of walks have been graded. The respective lengths and widths of these drives, bridle roads and walks, are shown in the annexed table. Their lines, as far as worked, are also shown upon the progress map.

DRIVES BROUGHT TO SUB-GRADE.

50 feet wide	275	lineal feet.
46 "	1,725	"
40 "	2,700	"
30 "	450	"
23 "	550	"
Total length of drives brought to sub-grade	5,700	"

BRIDLE ROADS BROUGHT TO SUB-GRADE.

20 feet wide	750	lineal feet.
14 "	225	"
8 "	400	"
Total bridle roads brought to sub-grade	1,375	"

WALKS BROUGHT TO SUB-GRADE.

16 feet wide	1,400	lineal feet.
12 "	475	"
Total length of walks brought to sub-grade	1,875	"

DRAINAGE LINES.

The main lines of pipes for the drainage of the district already worked over have been laid, the dimensions and respective lengths of which are shown in the following table. A quantity of stone drain has also been laid at points where such drainage was considered desirable and sufficient.

PIPE SEWER LAID.

15 inch vitrified pipe	1,851	lineal feet.
12 " "	2,018	"
2½ " "	555	"
6 " cement pipe	142	"
Total pipe laid	4,566	"

MATERIAL MOVED.

The total amount of material moved from the commencement of operations up to January 1st, 1867, is shown in the following summary statement:

Excavation for grading drives, bridle roads, walks, and meadows	85,181	cubic yds.
For Plaza	46,591	"
For sewers and drains	13,899	"
Soil excavated and piled for future use	65,200	"
Peat " " "	24,143	"
Clay " " "	5,906	"
Stone " " "	17,443	"
Miscellaneous excavation for test pits, etc., etc.	494	"
Total material moved	258,857	"

SETTING OUT TREES AND SHRUBS.

There have been set out about 14,000 trees and shrubs in the two nurseries, and several thousand young trees and shrubs have been transplanted at points where work has been in progress.

THE ENGINEER CORPS.

The present organization of the Engineer Corps is as follows:

For Field Work.—Three assistant engineers, two surveyors, two levelers, four rodmen, and sixteen chainmen and axemen.

For Office Work.—One principal and two assistant draughtsmen, and one office assistant in charge of estimates and accounts of cost.

Respectfully submitted,

JOHN BOGART,

Assistant Engineer in charge.

Brooklyn Park Commission,
Office of Design and Superintendence,
January 1st, 1867.

J. P. Davis, Esq.,
Engineer in charge:

Dear Sir: In the following report you will find a statement and summary of general facts and statistics compiled from the accounts and records of the force kept at this office.

ORGANIZATION.

The force is arranged in gangs of from twenty to fifty men. Over each gang is placed a foreman, and, when necessary, an assistant foreman; the whole being under the management and active supervision of a general foreman.

The method of keeping and returning the time of the men is as follows:

Each foreman is provided with two time-books, with the names of his men written therein, and so ruled and headed that at roll-call he has only to make a check mark opposite the name of each man present; or, if the man comes or leaves at irregular hours, the foreman marks the hour in the proper column, headed "came" or "left."

There are three roll-calls each day. In calling the roll, the men are required to form a line, and, as each man's name is called by the foreman, he steps out, and is identified by the assistant foreman; or, if the gang has no assistant foreman, by a man selected for the purpose, who responds "right;" or, if the man called is not present, he answers "absent."

At the last roll-call for the day, the foreman states aloud, as each man's name is called, the number of hours' work with which he is credited for the day.

The time-books are collected by messengers from this office, when the computation of hours worked is made up, and the books re-distributed each day. The office is thus charged with the sole responsibility of all required computations, the foreman's record being a mere tally mark.

The foremen, at the end of each pay term (of two weeks) are required to make an affidavit to the correctness of their returns.

When the weather prevents work, and on holidays, foremen and assistant foremen are required to report (unless specially excused)

to their general foreman, within thirty minutes after the usual time for commencing work, and if their services are not required, they then report at the office, where the time made by their men for the previous day is taken. They are then dismissed for the day.

The time of foremen, assistants, and men in gangs is all returned by the hour.

The whole laboring force is paid every two weeks.

DISCIPLINE.

It is the duty of all officers of the park and of foremen to report daily all cases of neglect of duty, inefficiency, or insubordination, for which, after investigation at the office of the Engineer in charge, the offenders are reprimanded, suspended temporarily from duty, or discharged. Minor offences, when a suspension of less than one day is required, are generally acted upon by the foreman, without reference to the office. The number of men discharged under discipline has been one hundred and seventy-five.

Men who have been absent from work three days cannot resume their places without a written restoration from the office, which is only given when a sufficient cause is shown for absence, accompanied by a certificate of previous good conduct from their foreman.

Owing to the standard of requirement established, many men who have obtained employment, and who were, to all appearance, possessed of fair qualifications as laborers, after a few days' trial have found the duty demanded of them too severe, and have voluntarily left. Consequently, although the largest number of men employed at any time has but little exceeded seven hundred, the names of many more than that number appear on the rolls.

THE WATCH.

To prevent pilfering, and to guard against the injury of the Commission's property in all respects, watchmen have been employed, the number on duty varying according to the conditions of the property exposed, and other circumstances, from eight to sixteen. Eight men are employed exclusively for watch duty, including the head watchman; others are drawn temporarily, as required, from the laboring force.

SUPPLIES.

When tools and materials arrive at the park, they are at once inspected, compared with the accompanying invoice, and, if found to

correspond, and to be satisfactory in all respects, a receipt is given for them, and they are added to the stock. Ordinarily, the inspection is made by the tool clerk; but, in special cases, by the heads of the branches of the work for which the material is particularly designed, the head carpenter examining the lumber, etc.

Tools and materials required by foremen in the ordinary prosecution of the work, are supplied on their individual requisition. Supplies so furnished are charged directly to the foreman. An inventory of the stock held by each foreman is taken every two weeks, and compared with the tool clerk's account, and the foreman is charged with the value of any deficiency, the amount being deducted from his wages.

Lumber, timber, bricks, and other materials used in construction, are issued on an order from a responsible officer of the park only, and are charged directly to the branch of the work in which they are to be used. An accurate account of their disposition is kept by one of the assistant engineers.

Respectfully submitted,

JNO. Y. CULYER,

Assistant Engineer in charge.

View from a point near the Carriage Concourse, north of the site for Music Stand, showing sites of Lake, Refectory and Lookout.

EIGHTH ANNUAL REPORT

OF THE

COMMISSIONERS OF PROSPECT PARK.

1868.

COMMISSIONERS.

JAMES S. T. STRANAHAN,
WALTER S. GRIFFITH,
JOHN H. PRENTICE,
EDWARDS W. FISKE,
TEUNIS J. BERGEN,
ABIEL A. LOW,
SEYMOUR L. HUSTED,
ABRAHAM B. BAYLIS,
THOMAS McELRATH,
STEPHEN HAYNES,
CORNELIUS J. SPRAGUE.

PRESIDENT.

JAMES S. T. STRANAHAN.

SECRETARY.

WALTER S. GRIFFITH.

COMPTROLLER AND COUNSEL.

JOHN N. TAYLOR.

LANDSCAPE ARCHITECTS AND SUPERINTENDENTS.

OLMSTED, VAUX & CO.

ENGINEER IN CHARGE.

CHARLES C. MARTIN.

ASSISTANT ENGINEERS IN CHARGE.

JOHN BOGART,
JOHN Y. CULYER.

EIGHTH ANNUAL REPORT

OF THE

COMMISSIONERS OF PROSPECT PARK.

To the Honorable the Mayor and Common Council of the City of Brooklyn:

The Commissioners of Prospect Park present this report of their proceedings, for the year 1867, to the Honorable the Mayor and Common Council of the city of Brooklyn, trusting that the results of the operations which they are about to detail will prove satisfactory to the Common Council, as well as to our citizens in general. With a full appreciation of the great responsibility of the trust committed to them, they are cheered by the reflection that, while laboring to secure to their fellow citizens the advantages of a beautiful and healthful pleasure ground, which must soon prove as conspicuous for its moral as for its material effects upon our city, they are, at the same time, strengthening that great bond of social sympathy which should always pervade a great commercial community, while it guarantees its permanence and success.

Their last annual report informed the Common Council of the intention of the Commissioners to apply to the Legislature for authority to annex twelve blocks of ground, at the northwesterly angle of the park, as being, in their judgment, indispensably necessary to the completion of the plan in that direction. The reasons for this acquisition were then stated, and need not be here repeated; they are, in fact, sufficiently obvious from a mere glance at the park map.

But it may now be said that the progress of construction on the western drive is entirely arrested, and cannot be resumed without encroaching, to a ruinous extent, upon the beautiful meadow south of it, which forms one of the most attractive features of the design. The Commissioners cannot believe that the people of Brooklyn will ever consent to so serious a mutilation of the plan as is implied by such a course of procedure, and they therefore propose to suggest these considerations to the Legislature, at its coming session, trusting that their renewed application will meet with a more favorable response than has hitherto attended their efforts in this behalf. When this addition shall have been made to the park area, it will, in their judgment, be sufficiently extended on the western side of Flatbush avenue for all useful or ornamental purposes, and will contain over five hundred acres of land, or, if the parade ground is to be included in the estimate, as it is already in the general design, about five hundred and fifty acres, conveniently located and easily maintained, and now rapidly approaching completion, under the plastic hand of the landscape architects employed by the board.

No plan for the improvement of that portion of the park lying east of the avenue has yet been suggested, which is entirely satisfactory to the board; but the subject has received, and will continue to receive, their studious consideration. In all adaptations of land to public use they have kept steadily in view what they believed to be the requirements of a rapidly growing city, of greatly diversified tastes, pursuits and habits; while they have not been unmindful of the expense of maintaining a large pleasure ground, after its completion, in that high degree of order and of neatness which are indispensably necessary to the accomplishment of its best purposes. The laying out of this portion of the park, divided as it is by a large public reservoir, and isolated from the rest of the park by a broad thoroughfare, presents a serious difficulty in harmonizing these discordant features with the general park design, which have been adverted to in a former report, But the Commissioners are now able to state that extensive plans of public improvement, bearing directly upon this section of the park, and having for their object a system of more ample and convenient approaches thereto; are in progress, and will

probably lead to an early and satisfactory solution of this problem.

No specific duty, in regard to making provision for suitable approaches to the park, was included in the direct responsibilities of the commission; but as it was quite evident, from the outset, that a necessity for some adequate discussion of the public requirements in this respect would sooner or later arise, and as it seemed equally clear that no other representative body would take the initiative in making the requisite suggestions, it was deemed best that the subject should receive the attention of the board. In the arrangements made for professional aid, it was accordingly understood that test surveys, having reference to this question of approaches should be prepared, from time to time, in accordance with such suggestions as might be given by the Commissioners. In the appended report of our landscape architects will be found the latest results of this examination. So far as the project which is therein outlined has been submitted to the parties more immediately interested in the south-eastern approach, it has been received with general approval; but the Commissioners do not propose to take any decided action in the matter, until the public judgment upon its merits shall have been sufficiently developed to enable them to act with entire confidence therein.

In immediate connection with the subject of approaches to the park, arises the question of laying out streets and avenues over that extensive tract of land which lies southerly from and beyond the limits of the park, and which must, at no distant day, become the abode of a vast multitude of people. The importance of attending to this matter at this time is the more obvious from the fact that this tract will soon form a portion of our city, and hence the necessity of projecting its streets and avenues in such a manner as to connect them with our own, consistently with public convenience, and with due regard to the promotion of the public health.

It is of no less importance to our neighbors, that the mistakes and confusion should be avoided which are necessarily incident to the laying out of the suburbs of a large town by individuals, who do not usually act in concert, or with any comprehensive consideration of their common interests. When a plan shall have been prepared, with the advantages of a

thorough study of all the topographical conditions of the district, and of its general relations to the city, on the one side, and to the adjoining country on the other, and with a due consideration of the various requirements which may be expected to arise, as its population increases, and such plan shall have made a public record, owners of property will of course conform their transfers of land, and the erection of houses, to the line of streets and avenues there laid down, while the corporate authorities will be thereby guided in the opening, working and grading of streets and avenues, and the introduction of water and sewerage thereon. The Commissioners cannot, therefore, withhold the expression of their unqualified approval of the project of a law which they are informed will engage the attention of the Legislature at its coming session, to provide for the laying out of streets, avenues and public places throughout the county of Kings, outside of the city of Brooklyn.

Since the last report of the Board operations on the park have steadily progressed. Commencing the year with a moderate force, it has been gradually increased as the season would permit. Proceedings to acquire title to about two hundred acres of land, which were authorized to be taken by the law of 1866, having been completed, the Commissioners entered upon the land, and organized an additional force of laborers to operate thereon. An abstract of all the returns of the laboring force made to the Comptroller during the year 1867, will be found appended to this report, showing the whole force engaged, as well as its general distribution among the different departments of labor, at the expiration of every two weeks.

The extent of ground which has been under treatment, and on which more or less progress towards completion has been made, is a little over two hundred and fifty acres. For the drainage and water supply of this ground over twelve miles of pipe have been laid, at depths varying from three to twenty-three feet. The improvement of fifty-seven acres of the surface, besides that assigned for roads, walks, and waters, has been fully completed. Nineteen thousand feet in length of carriage and bridle road have been advanced in construction, of which over six thousand feet have been finished.

The construction of over seventeen thousand feet in length of walk has been advanced, and about five thousand feet of it completed. Excavation has been commenced for the ponds over a surface of more than fifty acres, and the work is complete over about six acres. About twenty thousand cubic yards of masonry, twenty-four thousand feet of curb stone, and seventy-one thousand feet of Belgian pavement have been laid, and seven hundred thousand cubic yards of materials of all kinds moved during the last year.

These few statements will, in some degree, suggest the extent and variety of the subjects which have occupied the attention of the Commissioners during the past year; but for a more detailed and exact explanation of these several operations, the Common Council is respectfully referred to the accompanying maps and reports of our employees. The prosecution of these extensive operations has necessarily required the purchase of a large and varied supply of material, the greater portion of which has already been made use of. But the rollers, derricks, trucks, and other tools and instruments of construction and of engineering, are still on hand, and in good condition for any work that may be required of them for years to come.

Large quantities of stable manure, night soil, lime, phosphates, and other fertilizers, have been collected and composted with extensive beds of muck, found on the park, and now form rich and valuable deposits, from which constant drafts are made for planting trees and shrubs, and enriching the soil for turf.

Many fine trees, found upon the ground, have been transplanted to more conspicuous positions, and more will follow. Over seventy-three thousand trees and shrubs have been set out upon the Plaza mounds and walks, and upon the finished slopes and meadows; and the park nurseries now contain an excellent stock of about fifty thousand carefully selected and greatly varied trees and plants.

An abstract of the financial statement of the Board, which is hereto also annexed, will show the expenditures of the Commission for the year, amounting to nine hundred and seventy-three thousand nine hundred and three dollars and sixty cents. The largest item, it will be observed, is for actual labor bestowed upon the ground; while the materials of construction, tools,

and other instruments necessary for the use of a large force, come next in importance. The trees, manures, water, and drainage pipe, with the Belgian and other pavements, seem to be large items, but they are no part of the current expenses, and as soon as the stock shall have been completed, need not be repeated.

In the consideration of the expenditures of the year, it should not be forgotten that the price of labor and material has been very largely increased within a short time; that a considerable portion of the outlay was for the tools and machinery required to set large forces in motion, many of them of an expensive and permanent character; that long lines of drainage and water pipe were to be buried out of sight, to secure the removal of unwholesome moisture, and the proper distribution of water; and that large supplies of trees for the nurseries of fertilizers for the ground, of brick, stone, lime, and cement, for the bridges and culverts, of iron and steel for the construction and repair of tools and machinery, of timber and hardware, of hydrants and of castings, with an immense variety of other materials and supplies, must be kept in store for future, as well as for immediate use. The Commissioners believe that the large preliminary outlay which has been made will prove to be good economy, and will admit of the continued employment of as large a force of men as heretofore, capable of producing much larger results in the coming year, at a greatly diminished expense.

In October last carriages were admitted to a portion of the main eastern drive, which had just then been finished, and visitors have thronged the grounds since that time. From the visitors' register kept on the park, it appears that no less than 24,748 single horse carriages, 17,341 two horse vehicles, 9,766 equestrians, and 52,242 pedestrians have passed into the park within the period of a little over two months last past. So large a number of visitors at this early stage of our enterprise, the genuine pleasure manifested in the appearance of all, and the quiet and orderly behaviour exhibited by the miscellaneous multitude who throng the park "from early dawn to dewy eve," show unmistakably, not only how welcome all such breathing spots are to our pent-up population, but also their decidedly educational tendency, as well æsthetically as by the suggestion

and inculcation of habits of good order and propriety among the people at large. Who, after this, can doubt the utility of our noble park, or question the duty incumbent on society, of creating and maintaining such plans of public improvement as minister to the amusement, the morals, and the health of the masses? Or who shall deny the policy of developing and extending all such opportunities of innocent and intellectual recreation as the most effective rivals of the ale-house and the gambling table?

As the boundaries of the park were enlarged, and the number of persons employed upon it were increased, it became more difficult to preserve order, and to protect the tools and materials scattered over the grounds, many of which must necessarily be left out at night. Other parks, also, were put under the charge of the Commissioners, requiring protection, and the main park was about to be thrown open to the public. For these reasons, police duty, as it had formerly been discharged by ordinary watchmen, was found to be inadequate to the requirements made and about to be made upon it. It became necessary, therefore, to organize a new force of park-keepers, for the protection of property and the preservation of order.

An efficient body of men has accordingly been selected and uniformed, and they are now being carefully drilled and instructed in their duties. They are reinforced by the gardeners from time to time, as occasion may require; and the men who are engaged in the details of gardening during the morning, are required to serve, if necessary, as an auxilliary police in the afternoon and evening, when the grounds are thronged with visitors. In the discharge of duty, they are instructed to assist visitors with such information, advice, and guidance as may be required, to enable them to see and to use the park to the best advantage; to direct the course to be taken by carriages; to prevent the interruption of communication by crowds in any part of the park; and to guard visitors against such dangers as may occur, from blasts, runaways, pickpockets, going upon weak ice, or the like.

The rules and regulations established by the board, and which are directed to be observed by all persons who shall visit the park, will be found appended to this report. They

have been carefully framed, with a view of imposing the least possible restraint upon personal liberty which is consistent with the safety and freedom of others. It has often been a reproach to our country, that collections of works of art, and exhibitions for instruction and amusement, cannot be thrown open to the public without danger of injury. If any ground for such reproach really exists, the Commissioners think it can be removed only by greater liberality, in admitting the people freely to such establishments. By thus teaching them that they are themselves the parties most deeply interested in their preservation, and that it must be the interest of the public to protect that which is intended for the public advantage. If we seek to win the regard of others, we must show a regard for them ourselves; and if we seek to wean them from debasing pursuits and brutalizing pleasures, we can only hope to do so by opening freely to them new sources of rational enjoyment.

There is also another consideration which has had its influence upon the minds of the Commissioners, but which is not usually adverted to in estimating the motives of action of the visitors at our American parks, and in the adjustment of the degree of restraint which it is necessary to impose upon them. It is the remembrance of that self gratulatory and independent feeling of our tax-payers, that they hold their privileges as no chary favor or deputed permission, but as a legal right, purchased from their own resources, to be freely transmitted to their posterity, subject only to the necessary and comparatively trifling expense of culture and supervision.

The Commissioners would here direct the attention of the Common Council to some statistics connected with the cost of the park and of its improvements, which they think will at this time be found both interesting and instructive. The land originally taken cost the city, on the 15th day of June, 1864, when the report of the Commissioners on valuation was confirmed by the Supreme Court,

The sum of.....	$1,357,606 27
The first addition thereto on 4th Feb., 1866	158,558 41
And the recent addition on 27th May, 1867	752,745 02
Whole cost of land taken for the park	$2,268,909 70

Whole cost of land taken for the park....	$2,268,909 70
The cost of improvement, as appears from the financial statements appended to this and to previous annual reports, is..	$1,169,604 70
Making the entire cost of the park to date, exclusive of a small amount paid for interest.	$3,438,514 40

Payment of the first of these acquisitions was met by an issue of city bonds, bearing an interest of six per cent., and having ninety years to run. The residue of the amount was raised by sales of seven per cent. bonds, payable in forty-five years. None of these bonds have been disposed of by the city at less than their par value, and some of the seven per cents. have sold at a premium. The interest, payable semi-annually, is raised by annual tax on the first twelve and the twentieth wards of the city. And for the payment of the entire debt, both principal and interest, the whole park domain, with its improvements, are specifically pledged.

A sinking fund is also provided by law, consisting partly of an annual tax on said wards, running on to the maturity of the bonds, and partly of an assessment for benefit on the property adjacent to the park. This assessment has not yet been laid, but will doubtless realize a large sum of money, and will begin to be collected as soon as it shall have been properly apportioned by the Commissioners appointed for the purpose, by means of an annual tax, to be levied in installments for twenty years successively in the locality specially benefited.

This equitable adjustment of the park debt between those wards at whose instance the park was projected, and the owners of property particularly benefited by the improvement, has not only proved wise and practical, but bids fair to realize the most sanguine expectations of its projectors. Soon after work commenced on the park, the price of lots rose rapidly in the neighborhood, and recent sales continue to show an increasing value. The assessed value of real estate in the eighth ward, exclusive of the amount assessed for buildings, has increased over thirty per cent. during the last year. While the increased value of the real estate of the eighth and ninth wards, being the two wards immediately contiguous to the park, has for the same

property, from park enterprise, will not only enable it to maintain the park with ease in a high degree of culture, but will insure the payment of the debt incurred, and to be incurred, for its construction, long before its maturity, and that, too, with a continually diminished burthen upon its tax-payers.

The Board has the pleasure to announce, that the War Fund Committee of Kings County, has presented the city with a Bronze Statue of the late President Lincoln, to be erected in the park, as soon as a suitable place can be prepared for its reception. This beautiful work of art, designed and executed by our late townsman, H. K. Brown, the distinguished sculptor, is the result of a dollar subscription, set on foot among our citizens, by the patriotic committee above mentioned, soon after the decease of the subject of its commemoration, and may, therefore, be truly called the People's Monument.

The statue is nine feet high, and embodies the true ideal of the late President, the head and shoulders being modelled from a bust taken from life; a correct delineation of its other peculiarities having been secured, by the vivid recollection, which a personal intimacy with the deceased afforded to the artist. A cloak, such as Mr. Lincoln frequently wore, is thrown loosely over the shoulders, falling to the knees, giving dignity and elegance to the figure; the left hand holds an open scroll, on which is written the immortal Proclamation of Emancipation, the finger of the right hand pointing to the words "shall be forever free." It will be erected on a pedestal of granite fifteen feet high, to be located on the public platform in the Plaza, near the fountain, and will be ornamented on two sides with the eagle, one of them bearing the coat of arms of the city, and on the other two sides with wreathes to represent the army and navy; all in bronze with suitable inscriptions.

Our city may feel a just pride in the accomplishment of this beautiful tribute to the memory of Abraham Lincoln, for, of all the multitudinous monuments and statues proposed to be erected to his memory at the time of his death, this is believed to be the first that has been executed.

The Legislature, at its last session, at the request of the Common Council, placed four of the smaller parks of Brooklyn under the charge of this Board; but the season had advanced so rapidly before the Commissioners found themselves

in possession, that no more could be done than to devise a plan of improvement, which should render them more useful and creditable to the city, than they had heretofore been. Surveys were accordingly made, and topographical maps constructed, preparatory to the work of remodeling their designs; but as the law under which the Commissioners are acting did not seem to authorize such changes of plan as were desirable, they were compelled to postpone the further prosecution of the work, until a revision of the law could be procured. A detail from the park force of keepers was, however assigned to them, which has succeeded in preserving quiet and good order thereon.

At Carrol Park no proper provision had been made for the escape of surface water, which consequently overflowed the walks at every storm. An inlet basin was therefore constructed, at the lowest point of the ground, and connected with the street sewer, which will hereafter form part of the more complete system of drainage which is required for this park. The fence of this park has been thoroughly repaired and painted, and its gas lamps renewed.

Some repairs have also been made in connection with the City Park, but no sufficient examination has yet been given to the subject of its general plan of improvement. It is quite evident, however, that the study to be made in reference to its improvement, will require to be of a somewhat special character. Its near proximity to Washington Park, which, from its greater size and central position, must always offer a more attractive place of resort to the neighborhood, and to a great extent supersede the City Park as a pleasure ground, presents the question, whether it is desirable or proper to devote that amount of expense and labor to its improvement, which will be found necessary to render it suitable for the purposes of a public park.

A variety of suggestions have been made to the Commissioners, respecting this property, among others, that if turned to good business account, it would greatly increase the value of the taxable property of the city, and that its central position, and its nearness to the water, render it a fit location for a general market. These suggestions are not without force, but the Commissioners are not at liberty to take any decided action thereon, and therefore respectfully submit them to the consider-

ation of their fellow citizens, before making any recommendation in regard to the further improvement or final disposition of this portion of the public lands entrusted to their care.

The peculiar location and unsatisfactory condition of Washington Park demanded, and have received, a more particular consideration. A plan for its improvement has been prepared by our landscape architects, which, with their report thereon, will be found appended to this report. The Commissioners think it will be perused with as much satisfaction by our citizens generally, as it has been by the Board. The report will speak for itself; but the Commissioners take this opportunity of directing attention more particularly to a feature of the design which was suggested by a resolution of the Common Council, requesting that a suitable vault should be prepared for the reception of the remains of the Prison-ship Martyrs, preliminary to the erection of a monument to their memory. They have, it will be seen, accordingly provided for the construction of a suitable vault, which shall furnish a permanent resting place for the remains of those martyrs to civil liberty, whose memories are enshrined in the hearts of their countrymen; and they trust that the ultimate object of the resolution will, in due time be accomplished by the erection of a monumental structure which, while it pays just tribute to the honored dead, cannot fail to be creditable to our city, as well as ornamental to the beautiful park in which it is proposed to be erected. The cherished remains, having then found their long-sought asylum, will, under the protection of a grateful country, at length rest in peace.

Dated January 14th, 1868.

JAMES S. T. STRANAHAN,
President.

WALTER S. GRIFFITH,
Secretary.

JOHN N. TAYLOR,
Comptroller.

FINANCIAL STATEMENT

OF THE

COMMISSIONERS OF PROSPECT PARK,

FOR THE YEAR 1867.

The total receipts on account of Prospect Park during the year 1867, were:		
Balance of cash in bank, 1st of January		$123,317 81
From the Treasurer of the city	$1,100,000 00	
" Rents of houses on the park	6,002 92	
" Sales of old houses	650 00	
" Sales of wood, grass and old material	1,703 51	
" Interest on bank balances	6,431 64	1,114,788 07
Total		$1,238,105 88
The total expenditures for the same were:		
Paid salaries; comptroller, superintendent, landscape architects and engineers	24,958 28	
" Surveyors, draftsmen and assistants	46,715 83	
" Laborers, keepers, mechanics, horses and carts	683,810 93	
" Materials of construction, tools and instruments	141,317 93	
" Stationery, printing, drawing materials, &c.	5,579 18	
" Fitting up offices, furniture, rent and repairs	3,131 37	
" Trees, plants and shrubs	12,838 37	
" Manure and other fertilizers	10,273 34	
" Water pipe and hydrant	12,764 36	
" Drainage pipe	16,752 52	
" Belgian and other pavements	15,761 49	
		973,903 60
Balance to the credit of Prospect Park account, Dec. 31st, 1867		264,202 28
		$1,238,105 88

The total receipts on account of Washington, Carrol, City and City Hall Parks, were:		
From the Treasurer of the city		70,000 00
" Interest on bank balances.....		657 41
		$70,657 41
The total expenditures on the same parks were:		
For Washington Park.....	1,851 86	
" Carrol Park	1,810 56	
" City Park	558 44	4,220 86
" Balance to the credit of the said parks.....		66,436 55
		$70,657 41

RECAPITULATION.

Balance of cash on 1st January, 1867,	$123,317 81	
Received on account of Prospect Park,	1,114,788 07	
" " other city parks,	70,657 41	1,308,763 29
Expended on account of Prospect Park	$973,903 60	
Expended on account of other city parks	4,220 86	978,124 46
Balance of cash, 31st Dec., 1867		330,638 83
		$1,308,763 29

JOHN N. TAYLOR,
Comptroller.

PARK ORDINANCE,

No. 2.

An Ordinance for the better Government of the Public Parks now under the control of the Commissioners of Prospect Park. Passed August 1st, 1867.

The Commissioners of Prospect Park, in the city of Brooklyn, by virtue of the authority conferred upon them by the Act of the Legislature under which they were appointed, and the several acts amendatory thereof, do order and direct as follows:

1. The superintendents, under the direction of the executive committee of the board, are hereby authorized and directed to assign to police service so many and such men as shall, from time to time, be found necessary for the proper management and good government of the several parks now under charge of the said Commissioners.

2. The station houses of the said force, wherever they shall be located, may be used as places of temporary detention for persons who may be arrested upon either of the said parks.

3. A suitable badge and uniform shall be provided for each person so to be employed or appointed, and shall be displayed by him at all times when engaged in the discharge of police duty.

4. Whenever any person so employed or appointed shall display his badge upon either of the said parks, in the discharge of his duty, he shall, for all purposes of maintaining order and enforcing the rules, regulations and ordinances of the Park Commissioners, be invested with all the powers and authority conferred upon members of the police force of the Metropolitan Police District, by an act entitled "An act to establish a metropolitan police district, and to provide for the management thereof, passed April 15th, 1857," and the several acts amendatory thereof.

RULES AND REGULATIONS

FOR THE GOVERNMENT OF THE PUBLIC PARKS OF BROOKLYN.

The Commissioners of Prospect Park, in the city of Brooklyn, do make and publish the following rules and regulations to be observed by all persons who visit the public parks in said city:

1. The parks will be open to the public daily, except when special occasion may require either of them to be closed; and will continue open from sunrise to ten o'clock in the evening during the months of June, July, August and September, and from sunrise to nine o'clock in the evening during the other months of the year. The City Hall Park will remain open at all times.

2. No person, unless he is employed by the Board of Commissioners, will be permitted to enter or remain in or upon any of the parks except when they are open, as above provided. Nor shall any person enter or leave any of said parks except by the usual gateways, nor climb upon, or in any manner cut, injure or deface any tree, shrub, plant, grass, or turf, or any fence or other erection thereon.

3. No person shall make use of any loud, threatening, abusive or indecent language; nor throw stones or other missiles; nor play upon any musical instrument; nor post any bill, notice or other device upon any tree or structure; nor do any obscene or indecent act whatever upon or within any of said parks.

4. No cattle, horses, goats, swine or poultry of any description will be allowed within said parks; nor any dog, unless led by a suitable chain or cord, not exceeding six feet in length; nor shall any person expose any thing for sale thereon, unless by special permission of the Commissioners.

5. No person shall fire or discharge any gun, pistol, squib, torpedo, rocket, or other fireworks whatever, in, or upon any of said parks; nor shall any military or target company, or any civic, funeral or other procession, or detachment of a procession, enter, move or parade thereon, unless by special permission from said Commissioners.

6. The above rules and regulations apply to all Parks under the control of the Commissioners, and extend to the side walks adjacent to said parks.

7. The drives of Prospect Park will be open to the use of the public, solely for pleasure riding or driving. Animals to be used upon them must be well broken, and constantly held in such control that they may be easily and quickly turned or stopped. They will not be allowed to move at a rate of speed which shall cause danger or reasonable anxiety to others; nor under any circumstances at more than eight miles an hour. The park keepers will be held responsible for such regulation of the speed of animals passing under their observation as the general safety and convenience of those using the drives may require. And when, in the judgment of a keeper, any animal is moving too rapidly, and the keeper shall intimate this by a gesture, it shall be the duty of the rider or driver of such animal immediately to moderate its speed. No animal or vehicle will at any time be allowed to stand upon the rides or drives to the inconvenience of travel thereon. And when any keeper on duty may deem it necessary or proper so to do, he may, in order to prevent the crowding of carriages, or the appearance of a procession, temporarily detain, or otherwise direct, the movements of carriages or animals entering or being upon the said park.

8. No horse or vehicle of any description will be allowed upon any part of said park except upon the rides, drives, concourses or other places appropriated for horses and carriages; nor will any vehicle drawn by any animal, be allowed upon any foot-walk or ride in said park.

9. No hackney coach, carriage, or other vehicle for hire, shall stand anywhere within said park for the purpose of taking up passengers other than those which shall have been carried by it to said park; nor shall any person upon said park solicit or invite passengers.

10. No omnibus or express-wagon, either with or without passengers, nor any cart, dray, wagon, or other vehicle carrying goods, merchandise, manure or other articles, or which shall be ordinarily used for such purposes, shall be allowed upon any part of said park, except upon such roads as may be specially provided for the purpose.

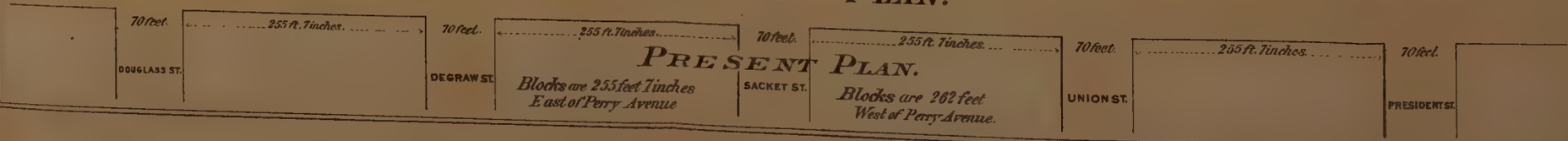
11. No person shall bathe, or take fish, or send or throw any animal or thing in or upon any of the waters of said park, or in any manner disturb or annoy any water-fowl, singing or other bird, deer or other animal appertaining to said park; nor shall any boat or vessel be placed on said waters except by special permission from the said Commissioners. And no skating or sledding will be allowed thereon, unless the officer in charge shall consider the ice to be in a suitable condition for that purpose.

12. For any violation of these rules and regulations, the offender will be liable to be summarily ejected from the premises, and to such punishment as the law directs.

CITY OF BROOKLYN.

PLAN OF A PORTION OF PARK WAY AS PROPOSED TO BE LAID OUT FROM THE EASTERN PART OF THE CITY TO THE PLAZA.

PROPOSED PLAN.



PRESENT PLAN.

Blocks are 255 feet 7 inches East of Perry Avenue

Blocks are 262 feet West of Perry Avenue.

Stites & Koch, 171 Pearl St. cor Pine N.Y.

REPORT

OF THE

LANDSCAPE ARCHITECTS AND SUPERINTENDENTS.

To the President of the Board of Commissioners of Prospect Park, Brooklyn:

Sir: In our annual report of last year we described the organization which had been made under instructions from your Board for carrying out the design of the park upon the ground. This organization remains to the present time essentially unchanged.

In June last, Mr. J. P. Davis having resigned the position, Mr. C. C. Martin was appointed to the office of Engineer in charge.

DEVELOPMENT OF THE DESIGN.

During the year it has been found practicable to carry forward the design for the park without intermission, although at many points the works, which it would have been most desirable to press to completion, have been suspended in consequence of the uncertainty in regard to boundary lines that still continue to embarrass operations.

So much of the land required for the park as lies to the south of that upon which work was last year commenced, came into the actual possession of the Commissioners during the month of June last, and active operations were at once extended over a large part of the new territory.

A portion of the road system in this section of the ground has been developed, the carriage concourse proposed in our original design to be constructed on Briar Hill has been sub-graded, and the ground in the vicinity of this concourse has been partially shaped. It was found practicable in execution to enlarge the area of this feature of the design, and the dimensions have been somewhat in-

creased, it being evident that the position was one that would offer special attractions to visitors in carriages.

On the east side of the park, north of the Deer Paddock, the design as it stood last year has been so far modified in execution as to admit of the introduction of a series of arrangements adapted especially to meet the wants of children. The plan as approved, and now well advanced in execution, contemplates suitable accommodations in running sports and for playing various games, it also includes croquet grounds, a pond for the sailing of toy boats, and a maze.

In other respects but little variation has been made in the outline of the design from our first study.

CONSTRUCTION.

You will find appended a full account of the progress of the methods used, and of the means and materials employed, which has been prepared by Mr. Martin and his principal aids, Mr. Bogart and Mr. Culyer.

Two archways have been partially constructed during the year, and work has been commenced upon several other architectural features, our studies for which have been approved by the Board. The development in detail of this department of the work is under the more immediate charge of Mr. E. C. Miller, who has fulfilled the duties of Assistant Architect since the beginning of July last.

PUBLIC USE OF THE PARK.

It was found necessary in the Spring to close the country roads by which the public had previously crossed the park territory, but on the 20th of October, a portion of the drive at the east side was so far completed that by making temporary connections with old roads, a thoroughfare for carriages across the park was again opened. At the same time regulations for the conduct of visitors and for the management of the work with reference to the convenience of the public were promulgated, and a beginning was made in the organization of a permanent body of park-keepers, conjointly with a body of gardeners, according to a plan which had some time before been adopted by the Board. Although the short piece of good road opened at this time was accessible with difficulty, and the grounds through which it passed were in a quite unfinished condition, it was immediately resorted to by visitors in large numbers. Besides those in carriages, many came on horseback, and, although no walks had been opened, many more on foot. A tabular statement of the

number of each class, prepared from the returns of the gate-keepers, is given by Mr. Culyer. The fact is noted that a considerable portion of the visitors evidently did not come merely from motives of curiosity, but, after their first visit, repeatedly returned. During all the remainder of the season, indeed, not a few resorted to the park as a daily habit, of whom some came from the more distant parts of the town. Considering the extreme inconvenience with which the park is at present reached, and the very limited attractions which as yet it offers, this circumstance is a gratifying indication of the value which it will hereafter possess.

THE PARKWAY—APPROACHES AND CONNECTIONS.

The unsatisfactory character of the approaches to the park has been recognized by your Board, from the outset of its undertaking, as calculated to seriously detract from the value of the service which it would otherwise be able to render the city, and it has accordingly been an incidental part of our duty to devise means of improvement. To do so it has been necessary that we should extend our field of study beyond the territory under your jurisdiction. Our first suggestion led, through the subsequent action of your Board, to the special appropriation of the ground necessary for the formation of the Plaza, and to the establishment of the several circular spaces by which amplitude, symmetry, and dignity of character was sought to be secured on the street side of each of the park gates. Through the promptness of the necessary legislative action, and of the subsequent proceedings in regard to the Plaza, a very great advantage was gained at a comparatively small cost for the necessary land, much of the adjoining ground having since been sold in the open market at rates indicating an advance of several hundred per cent. upon the prices paid by the city.

In our preliminary report accompanying the first study of the plan of the park, without making any definite recommendations, we suggested the leading features of a general scheme of routes of approach to and extension from the park, through the suburbs, in which the sanitary, recreative, and domestic requirements of that portion of the people of the city living at the greatest distance from the park should be especially provided for. In our annual report of last year portions of this project were somewhat more distinctly outlined, and the economical advantages were pointed out, of preparing and adopting plans for the purpose well in advance of the public demand, which it was intended to anticipate, and while land properly situated might yet be selected in the suburbs of such moderate value that no

private interests of much importance would be found to stand in antagonism in this respect to those of the public.

RELATIONS OF THE PARK TO THE STREET ARRANGEMENTS OF THE CITY.

Your Board having brought these suggestions before the public, they have during the last year attracted considerable attention. One of the minor recommendations has been already taken up by a body of citizens, and an organized effort to carry it out is understood to be in progress. Under your instructions a topographical survey has also been made of a section of the ground to which the larger scheme applies, being that lying immediately east of the park, and extending from it to the City Line; and a study has been prepared, also under your instructions, and which is herewith presented, for a revision of a part of the present city map of this ground, with a view to the introduction of the suggested improvement.

The period seems to have arrived, therefore, for a full and comprehensive inquiry as to the manner in which the scheme would, if carried out, affect the substantial and permanent interests of the citizens of Brooklyn, and of the metropolis at large.

The project in its full conception is a large one, and it is at once conceded that it does not follow, but anticipates, the demand of the public; that it assumes an extension of the city of Brooklyn, and a degree of wealth, taste, and refinement to be likely to exist among its citizens which has not hitherto been definitely had in view; and that it is even based upon the presumption that the present street system, not only of Brooklyn, but of other large towns, has serious defects, for which, sooner or later, if these towns should continue to advance in wealth, remedies must be devised, the cost of which will be extravagantly increased by a long delay in the determination of their outlines.

ELEMENTS OF ORDINARY STREET ARRANGEMENTS.

What is here referred to under the designation of our present street system, is essentially comprised in the two series of thoroughfares extending in straight lines to as great a distance within a town as is found practicable, one series crossing the other at right angles, or as nearly so as can be conveniently arranged. Each of the thoroughfares of this system consists of a way in the center, which is paved with reference solely to sustaining the transportation upon wheels of the heaviest merchandise, of a gutter on each side of this

wheel-way, having occasional communication with underground channels for carrying off water, and a curb which restricts the passage of wheels from a raised way for the travel of persons on foot, the surface of which, to avoid their sinking in the mud, is commonly covered with flags or brick.

This is the system which is almost universally kept in view, not only in the enlargement of our older towns, but in the setting out of new; such, for instance, as are just being projected along the line of the Pacific Railroad. If modifications are admitted, it is because they are enforced by some special local conditions which are deemed, by those responsible for the arrangement, to be unfortunate. The reason for this is probably found chiefly in the fact, that it is a plan which is readily put on paper, easily comprehended, and easily staked out; it makes the office of an engineer or surveyor at the outset almost a sinecure, as far as the exercise of professional ability is concerned, and facilitates the operations of land speculators.

Its apparent simplicity on paper is often fallacious, and leads either to unnecessary taxation or to great permanent inconvenience. It is obviously incomplete, and wholly unsuited to the loading and unloading of goods which require storage, but, where it can be well carried out, offers very great advantages for the transportation of merchandise between distant points. It is also well adapted to equalize the advantages of different parts of a town, and thus avoid obstructions to improvement which mercenary jealousies might otherwise interpose.

In our judgment, advantages such as these have hitherto been pursued far too exclusively, but, as the presumption is always strong against any considerable innovation upon arrangements which have been long associated with the general conditions of prosperity and progress of all civilized communities, we desire, before giving reasons for this conviction, first, to remove any reasonable prejudice against the introduction of the entirely new elements into the street plan of Brooklyn, which we shall have to propose, by showing under what conditions of society, and with reference to what very crude public requirements, compared with those which now exist, our present street arrangements have been devised.

WHY ORDINARY ARRANGEMENTS ARE INADEQUATE TO PUBLIC REQUIREMENTS.

At present, large towns grow up because of the facilities they offer mankind for a voluntary exchange of service, in the form of

merchandise; but nearly all the older European towns of importance, from which we have received the fashion of our present street arrangements, were formed either to strengthen or to resist a purpose involving the destruction of life and the plunder of merchandise. They were thus planned originally for objects wholly different from those now reckoned important by the towns which occupy the same sites, and an examination of the slow, struggling process by which they have been adapted to the present requirements of their people, may help us to account for some of the evils under which even here, in our large American towns, we are now suffering.

HISTORICAL DEVELOPMENT OF EXISTING STREET ARRANGEMENTS, FIRST STAGE.

They were at the outset, in most cases, entrenched camps, in which a few huts were first built, with no thought of permanence, and still less with thought for the common convenience of their future citizens. The wealth of their founders consisted chiefly in cattle, and in the servants who were employed in herding and guarding these cattle, and the trails carelessly formed among the scattered huts within the entrenchments often became permanent foot-ways which, in some cases, were subsequently improved in essentially the same manner as the sidewalks of our streets now are, by the laying upon them of a series of flat stones, so that walkers need not sink in the mud. If the ground was hilly, and the grades of the paths steep, stairs were sometimes made by laying thicker slabs of stone across them. Convenience of communication on foot was, of course, the sole object of such improvements.

If, in these early times, any highways were more regularly laid out, it was simply with reference to defence. For example, although two nearly straight and comparatively broad-ways were early formed in Paris, so that reinforcements could be rapidly transferred from one gate to another when either should be suddenly attacked, no other passages were left among the houses which would admit of the introduction of wheeled traffic; nor in all the improvements which afterwards occurred, as the city advanced in population and wealth, were any of the original pathways widened and graded sufficiently for this purpose until long after America had been discovered, and the invention of printing and of fire-arms had introduced a new era, of social progress.

The labor required for the construction of permanent town walls, and the advantage of being able to keep every part of them closely

manned during an attack, made it desirable that they should not be unnecessarily extended. To admit of a separate domiciliation of families within them, therefore, the greatest practicable compactness in the arrangement of dwelling-houses soon became imperative. As families increased, the demand for additional house-room was first met by encroachments upon the passages which had been left between the original structures, and by adding upper stories, and extending these outward so as to overhang the street. Before this process had reached an extreme point, however, the town would begin to outgrow its walls, and habitations in the suburbs would occur, of two classes: first, those formed by poor herdsmen and others, who, when no enemy was known to be near at hand, could safely sleep in a temporary shelter, calculating to take their chance in the town when danger came; and, second, those formed by princes and other men of wealth and power, who could afford to build strongholds for the protection of their families and personal retainers, but who, in times of war, yet needed to be in close vicinity to the larger fighting forces of the town. Neither the castle nor the hovel being placed with any reference to the enlargement of the town, or to public convenience in any way, streets were formed through the suburbs, as they became denser, in much the same way as they had been in the original settlement; then, as the walls were extended, the military consideration again operated to enforce the idea of compactness in every possible way.

The government of these towns also, however its forms varied, was always essentially a military despotism of the most direct and stringent character, under which the life, property, health and comfort of the great body of their people were matters, at best, of very subordinate consideration.

Thus the policy, the custom and the fashion was established in the roots of our present form of society of regarding the wants of a town, and planning to meet them, as if its population were a garrison, to be housed in a barrack, with only such halls and passages in it, from door to door, as would be necessary to turn it in, to sleep and feed, and turn it out, to get its rations.

It naturally fell out that when at length the general advance of society, in other respects, made it no longer necessary that a man should build a castle, and control, as personal property, the services of a numerous body of fighting men, in order to live with some degree of safety in a house of his own, apart from others, all the principal towns declined for a time in wealth and population, because of the number of opulent citizens who abandoned their old residences,

and moved, with servants and tenants, to make new settlements in the country.

The excessive suppression of personal independence and individual inclinations which had before been required in town life caused a strong reactionary ambition to possess each prosperous citizen to relieve himself as much as possible from dependence upon and duties to society in general, and it became his aim to separate himself from all the human race except such part as would treat him with deference. To secure greater seclusion, and at the same time opportunity for the only forms of out-door recreation which the rich, after the days of jousts and tournaments, were accustomed to engage in, all those who could command favor at court sought grants of land abounding in the larger game, and planted their houses in the midst of enclosures called parks, which not only kept neighbors at a distance, but served as nurseries for objects of the chase.

The habits of the wealthy, under these circumstances, though often gross and arrogant, and sometimes recklessly extravagant, were far from luxurious, according to modern notions, and as, in order to realize as fully as possible the dream of independence, every country gentleman had his private chaplain, surgeon, farrier, tailor, weaver and spinner, raised his own wool, malt, barley and breadstuffs, killed his own beef, mutton and venison, and brewed his own ale, he was able to despise commerce and to avoid towns. The little finery his household coveted was accordingly brought to his door on pack-mules by travelling merchants. The vocation of a merchant, in its large, modern sense, was hardly known, and the trade of even the most considerable towns was, in all respects, very restricted. Thus the old foot-way streets still served all necessary requirements tolerably well.

As the advance of civilization continued, however, this disinclination to the exchange of service, of course, gave way; demands became more varied, and men of all classes were forced to take their place in the general organization of society in communities. In process of time the enlargement of popular freedom, the spread of knowledge by books, the abatement of religious persecutions, the voyages of circumnavigators, and finally the opening of America, India and the gold coast of Africa to European commerce, so fed the mercantile inclinations, that an entirely new class of towns, centres of manufacturing, and of trade, grew upon the sites of the old ones. To these the wealthy and powerful were drawn, no longer for protection, but for the enjoyment of the luxuries which they found in them, while the more enterprising of the lower classes crowded into them to "seek their fortune."

SECOND STAGE OF STREET ARRANGEMENTS.

Wagons gradually took the place of pack-trains in the distribution of goods through the country, and, as one man could manage a heavy load, when it was once stowed, as well as a light one, the wagons were made very large and strong, and required the employment of many horses.

In comparatively few town streets could two of these wheeled merchantmen, with the enormous hamper they carried on each side, pass each other. The seats and hucksteries of slight wood-work, with which the streets had been lined, were swept away; but, as the population rapidly increased, while the house accommodation was so limited that its density, in the city of London, for instance, was probably three times as great as at present, any attempt to further widen the streets for the convenience of the wagoners had to encounter the strongest resistance from the householders.

Thus, without any material enlargement, the character of the streets was much changed. They frequently became quite unfit to walk in, the more so because they were used as the common place of deposit for all manner of rubbish and filth thrown out of the houses which was not systematically removed from them.

Although London then occupied not a fiftieth part of the ground which it does now, and green fields remained which had been carefully preserved for the practice of archery within a comparatively short distance of its central parts, to which the inhabitants much resorted for fresh air on summer evenings; although the river still ran clear, and there was much pleasure boating upon it, the greater part of the inhabitants were so much confined in dark, ill-ventilated, and noisome quarters, that they were literally decimated by disease as often as once in every two years, while at intervals fearful epidemics raged, at which times the mortality was much greater. During one of these, four thousand deaths occurred in a single night, and many streets were completely depopulated. All who could by any means do so fled from the town, so that in a short time its population was reduced more than fifty per cent. It had not yet filled up after this calamity, when a fire occurred which raged unchecked during four days, and destroyed the houses and places of business of two hundred thousand of the citizens. Its progress was at length stayed by the widening of the streets across which it would have advanced if the buildings which lined them had not been removed by the military.

Five-sixths of the area occupied by the old city was still covered

with smoking embers when the most distinguished architect of the age seized the opportunity to urge a project for laying out the street system of a new town upon the same site. The most novel feature of this plan was the introduction of certain main channel streets, ninety feet wide, in which several wagons could be driven abreast upon straight courses from one end of the city to the other. It was also proposed that there should be a series of parallel and intersecting streets sixty feet wide, with intermediate lanes of thirty feet. The enormous advantages of such a system of streets over any others then in use in the large towns of Europe were readily demonstrated; it obtained the approval of the king himself, and would have been adopted but for the incredible short-sightedness of the merchants and real estate owners. These obstinately refused to give themselves any concern about the sacrifice of general inconvenience or the future advantages to their city, which it was shown that a disregard of Wren's suggestions would involve, but proceeded at once, as fast as possible, without any concert of action, to build anew, each man for himself, upon the ruins of his old warehouse. There can be little question that, had the property owner's at this time been wise enough to act as a body in reference to their common interests, and to have allowed Wren to devise and carry out a complete street system, intelligently adapted to the requirements which he would have been certain to anticipate; as well as those which were already pressing, it would have relieved the city of London of an incalculable expenditure which has since been required to mend its street arrangements; would have greatly lessened the weight of taxation, which soon afterwards rose to be higher than in any other town of the kingdom, and would have saved millions of people from the misery of poverty and disease.

Although in a very few years after the rebuilding of the city, its commerce advanced so much as to greatly aggravate the inconveniences under which street communication had been previously carried on, the difficulties were allowed to grow greater and greater for fully a century more, before anything was done calculated to essentially alleviate them, They seem to have been fully realized, and to have been constantly deplored, nor were efforts of a certain kind wanting to remedy them; the direction of these efforts, however, shows how strongly a traditional standard of street convenience yet confused the judgment even of the most advanced. A town being still thought of as a collection of buildings all placed as closely as possible to one centre, was also regarded as a place of necessarily inconvenient confinement, and, therefore, of crowding, hustling, and

turbulence. An enlargement of the population of a town could only aggravate all the special troubles and dangers to which those living in it were subject, add to the number of its idle, thriftless, criminal, and dangerous classes, and invite disease, disorder, and treasonable tumults. As, therefore, to amplify the street arrangements, or otherwise enlarge the public accommodations for trade or residence, would be to increase its attractions, the true policy was generally assumed to be in the other direction. In London, not only its own corporation followed this policy, but parliament and sovereign systematically did the same.

Once, for instance, a proclamation was issued to forbid, under heavy penalties, the erection of any houses, except such as should be suitable for the residence of the gentry, within three miles of the town; another followed which interdicted householders from enlarging the accommodations for strangers within the town; another enjoined all persons who had houses in the country to quit the town within three weeks, while constant efforts were made to ship off those who had none to Ireland, Virginia, or Jamaica.

In spite of all, new houses were built on the sides of the old country roads, the suburban villages grew larger and larger, till at length they were all one town with London, and the population became twice as great, and the commerce much more than twice as great as at the time of the great fire. Even when at last plans of real improvement began to be entertained, it was no thought of resisting the increase of disease, pauperism, and crime, by other means than fencing it out, that produced the change, but mainly the intolerable hindrance to commerce of the old-fashioned arrangements. Though some refused to see it, and still protested against the plans of improvement as wholly unnecessary, hazardous, reckless, and extravagant, and denounced those who urged them as unprincipled speculators or visionary enthusiasts, the merchants generally could no longer avoid the conviction that their prosperity was seriously checked by the inadequacy of the thoroughfares of the town for the duty required of them. Parliament was therefore induced, in the latter part of the last century, to authorize a series of measures which gradually brought about, in the course of fifty years, larger and more important changes than had occurred before during many centuries.

As the definite aim of these changes was to get rid of certain inconveniences which had previously been classed among the necessary evils of large towns, and as the measure with reference to which the purpose of their design was limited is thus clearly estab-

lished, it is evident that, before we can realize the degree in which they were likely to approach the ultimatum of civilized requirement, we need to know more exactly what the inconveniences in question amounted to.

It appears, then, that the imperfect pavements, never having been adequately revised since the days of hand-barrow and pack-horse transportation, were constantly being misplaced, and the ground worn into deep ruts, by the crushing weight of the wheels; the slops and offal matters thrown out of the houses, were combined with the dung of the horses and the mud, to make a tenacious puddle, through which the people on foot had to drag their way, in constant apprehension of being run down or crushed against the wall. In the principal streets strong posts were planted at intervals, behind which active men were accustomed to dodge for safety as the wagons came upon them. Coaches had been introduced in the time of Elizabeth, but though simple, strong, and rudely-hung vehicles, they were considered to be very dangerous in the streets, and their use within the town was for some time forbidden. Sedan chairs for all ordinary purposes superseded them, and for a long time had been in common use by all except the poorer classes, upon every occasion of going into the streets. When George the Third went in the state coach to open parliament, the streets through which he passed were previously prepared by laying faggots in the ruts to make the motion easier. There was little or no sewerage or covered drainage, and heavy storms formed gullies of the ruts, and often flooded the cellars, destroying a great deal of merchandise.

This was the condition in which, after several hundred years, the town had been left by the transformation of the passages, first occurring between the huts of the entrenched camp of a tribe of barbarians, from the serviceable foot-ways of the early middle ages, to the unserviceable wagon-ways of the generation but one before the last.

THIRD STAGE OF STREET ARRANGEMENTS.

To remedy its evils, in the construction of new streets and the reconstruction of old, the original passage for people on foot was restored, but it was now split through the middle and set back, with the house fronts on each side, so as to admit of the introduction of a special road-way for horses and wheels at a lower level. A curb was placed to guard the foot-way from the wheels; gutters were used to collect the liquid and floating filth, and sewers were constructed which enabled the streams thus formed to be taken out of

the streets before they became so large as to flood the sidewalks. At the same time an effort was made to so straighten and connect some of the streets, that goods could be taken from one quarter of the town to another by direct courses, and without the necessity of doubling the horse-power at certain points, in order to overcome the natural elevations of the ground.

Thus, just one hundred years after Wren's suggestions were rejected by the merchants, their grandsons began to make lame efforts to secure some small measure of the convenience which his plan had offered them.

A few of the latter improvements had been adopted in other towns, at a somewhat earlier period than in London. In the plans of St. Petersburg and of Philadelphia, for instance, directness and unusual amplitude of road-way had been studied; and some of the free cities of Germany had, at an earlier date, possessed moderately broad and well-paved streets, but the exceptions do not affect the conclusion which we desire to enforce.

To fully understand the reason of this long neglect to make any wise preparation for the enlargement of population which it would seem must surely have been anticipated, we need to consider that while a rapid advance was all the time occurring from the state of things when a town was intended to be governed with little direct regard for the interests of any but a very few of its occupants, at the same time direct responsibility for the care of its interests was being diffused and held for shorter intervals, and was, consequently, less and less felt, as a motive to ingenuity and energy, by any one of the several individuals who partook in it. The theory and form of town government changed more slowly than the character and modes of life of those who were called upon to administer it, but an adherence to the antiquated forms was only calculated to make a personal duty, with reference to the actual new conditions of the people, less easily realized and less effectively operative. What is everybody's business is nobody's; and although, of late years, experts, with professional training in special branches, are not unfrequently engaged by municipal bodies to study particular requirements of the people, and invent means to satisfy them, still, as a general rule, improvements have come in most cities, when they have come at all, chiefly through the influence of individual energy, interested in behalf of special mercantile or speculative enterprises, by which the supineness of the elected and paid representatives of the common interests of the citizens has been overborne.

ERRONEOUS VIEW OF THE NECESSARY DISADVANTAGES OF TOWN LIFE.

What is of more consequence, however, not merely that we may avoid injustice to our ancestors, but that we may realize the changes which have occurred in the standard of requirement, with reference to which the merits of a street system are now to be judged, is the fact that when these improvements were devised, it was still pardonable to take for granted that the larger the population of a town should be allowed to become, the greater would be the inconvenience and danger to which all who ventured to live in it would necessarily be subject, the more they would be exposed to epidemic diseases, the feebler, more sickly, and shorter their lives would be; the greater would be the danger of sweeping conflagrations; the larger the proportion of mendicants and criminals, and the more formidable, desperate and dangerous the mobs.

EVILS OF TOWN-LIFE HAVE DIMINISHED AS TOWNS HAVE GROWN LARGER.

We now know that these assumptions were entirely fallacious, for, as a matter of fact, towns have gone on increasing until there are many in Europe which are several times larger than the largest of of the middle ages, and in the largest the amount of disease is not more than half as great as it formerly was; the chance of living to old age is much more than twice as great; epidemics are less frequent, less malignant and more controllable; sweeping fires are less common, less devastating and are much sooner got under; ruffians are much better held in check; mobs are less frequently formed, are less dangerous, and, when they arise, are suppressed more quickly and with less bloodshed; there is a smaller proportion of the population given over to vice and crime and a vastly larger proportion of well-educated, orderly, industrious and well-to-do citizens. These things are true, in the main, not of one town alone, but of every considerable town, from Turkey on the one side to China on the other, and the larger each town has grown, the greater, on an average, has been the gain. Even in Mahomedan Cairo, chiefly through the action of French engineers, the length of life of each inhabitant has, on an average, been doubled. The question, then, very naturally occurs: "What are the causes and conditions of this amelioration, and can it be expected to continue?

REASON FOR ANTICIPATING AN ACCELERATED ENLARGEMENT OF METROPOLITAN TOWNS.

If the enormous advance in the population of great towns which

has been characteristic of our period of civilization, is due mainly to the increase of facilities for communication, transportation and exchange throughout the world, as there is every reason to believe that it is, we can but anticipate, in the immediate future, a still more rapid movement in the same direction.

We are now extending railroads over this continent at the rate of more that fifteen hundred miles a year, and before our next President takes his seat, we shall have applied an amount of labor which is represented by the enormous sum of two thousand millions of dollars, to this work, most of it preparatory, and more than half of it directed to the opening up of new lands to profitable cultivation. The productive capacity of the country thus laid open, and the demand upon commerce of its people, has scarcely yet begun to be manifested. We have but half made our first road to the Pacific, and we have only within a year begun to extend our steam navigation to Japan and China, where the demands upon civilized commerce of a frugal and industrious population, much larger than that of all Christendom, yet remain to be developed. We are ourselves but just awake to the value of the electric telegraph in lessening the risks of trade on a large scale, and giving it order and system. Thus, we seem to be just preparing to enter upon a new chapter of commercial and social progress, in which a comprehension of the advantages that arise from combination and co-operation will be the rule among merchants, and not, as heretofore, the exception.

CONDITIONS UNDER WHICH THE EVILS OF LARGE TOWNS HAVE DIMINISHED.

The rapid enlargement of great towns which has hitherto occurred, must then be regarded as merely a premonition of the vastly greater enlargement that is to come. We see, therefore, how imperative, with reference to the interests of our race, is this question, whether as the enlargement of towns goes on the law of improvement is such that we may reasonably hope that life in them will continue to grow better, more orderly, more healthy? One thing seems to be certain, that the gain hitherto can be justly ascribed in very small part to direct action on the part of those responsible for the good management of the common interests of their several populations. Neither humanity nor the progress of invention and discovery, nor the advancement of science has had much to do with it. It can not even, in any great degree, be ascribed to the direct action of the law of supply and demand.

Shall we say, then, that it has depended on causes wholly beyond

the exercise of human judgment, and that we may leave the future to take care of itself, as our fathers did? We are by no means justified in adopting such a conclusion, for, if we can not yet trace wholly to their causes, all the advantages we possess over our predecessors, we are able to reach the conviction, beyond all reasonable doubt, that at least, the larger share of the immunity from the visits of the plague and other forms of pestilence, and from sweeping fires, and the larger part of the improved general health and increased length of life which civilized towns have lately enjoyed is due to the abandonment of the old-fashioned compact way of building towns, and the gradual adoption of a custom of laying them out with much larger spaces open to the sun-light and fresh air; a custom the introduction of which was due to no intelligent anticipation of such results.

Evidence of this is found in the fact that the differing proportions between the dying and the living, the sick and the well, which are found to exist between towns where most of the people still live on narrow streets, and those in which the later fashions have been generally adopted; and between parts of the same town which are most crowded and those which are more open, are to this day nearly as great as between modern and ancient towns. For instance, in Liverpool, the constant influx of new-comers of a very poor and ignorant class from the other side of the Irish Channel, and the consequent demand for house-room, and the resulting value of the poor, old buildings which line the narrow streets, has, till recently, caused the progress of improvement to be much slower than in the much larger town of London, so that, while the average population of Liverpool is about 140,000 to the square mile, that of London is but 50,000; the average age at death in Liverpool is seventeen, and that in London twenty-six. In the city of Brooklyn the number of deaths for each thousand of population that occurred this last year in the closer built parts, was twice as large as in those where the streets are wider and there are many gardens.

Comparisons of this kind have been made in such number, and the data for them have been drawn from such a large variety of localities in which the conditions of health in all other respects have been different, that no man charged, however temporarily and under whatever limitations, with municipal responsibilities, can be pardoned for ignoring the fact that the most serious drawback to the prosperity of town communities has always been dependent on conditions (quite unnecessary to exist in the present day) which have led to stagnation of air and excessive deprivation of sun-light.

Again, the fact that with every respiration of every living being a quantity is formed of a certain gas, which, if not dissipated, renders the air of any locality at first debilitating, after a time sickening, and at last deadly; and the fact that this gas is rapidly absorbed, and the atmosphere relieved of it by the action of leaves of trees, grass and herbs, was quite unknown to those who established the models which have been more or less distinctly followed in the present street arrangements of our great towns. It is most of all important, however, that we should remember that they were not as yet awake to the fact that large towns are a necessary result of an extensive intercourse between people possessing one class of the resources of wealth and prosperity and those possessing other classes, and that with each increase of the field of commerce certain large towns must grow larger, and consequently, that it is the duty of each generation living in these towns to give some consideration, in its plans, to the requirements of a larger body of people than it has itself to deal with directly.

CHANGE IN THE HABITS OF CITIZENS AFFECTING THE STRUCTURAL REQUIREMENTS OF TOWNS.

If, again, we consider the changes in the structure of towns which have occurred through the private action of individual citizens we shall find that they indicate the rise of a strong tide of requirements, the drift of which will either have to be fairly recognized in the public work of the present generation, or it will, at no distant day, surely compel a revision of what is now done that will involve a large sacrifice of property.

SEPARATION OF BUSINESS AND DOMESTIC LIFE.

In the last century comparative few towns-people occupied dwellings distinctly separate from their place of business. A large majority of the citizens of Paris, London and of New York do so to-day, and the tendency to divisions of the town corresponding to this change of habits must rapidly increase with their further enlargement, because of the greater distance which will exist between their different parts. The reason is obvious: a business man, during his working hours, has no occasion for domestic luxuries, but needs to have access to certain of his co-workers in the shortest practicable time, and with the smallest practicable expenditure of effort. He wants to be near a bank, for instance, or near the Corn Exchange, or near the Stock Exchange, or to shipping, or to a certain class of shops or manufactories. On the other hand, when not engaged in

business, he has no occasion to be near his working place, but demands arrangements of a wholly different character. Families require to settle in certain localities in sufficient numbers to support those establishments which minister to their social and other wants, and yet are not willing to accept the conditions of town-life which were formerly deemed imperative, and which, in the business quarters, are yet, perhaps, in some degree, imperative, but demand as much of the luxuries of free air, space and abundant vegetation as, without loss of town privileges, they can be enabled to secure.

Those parts of a town which are to any considerable extent occupied by the great agencies of commerce, or which, for any reason, are especially fitted for their occupation, are therefore sure to be more and more exclusively given up to them, and, although we cannot anticipate all the subdivisions of a rapidly increasing town with confidence, we may safely assume that the general division of all the parts of every considerable town, under the two great classifications of commercial and domestic, which began in the great European towns in the last century, will not only continue, but will become more and more distinct.

It can hardly be thought probable that street arrangements perfectly well adapted in all respects to the purposes to be served in one of these divisions are the very best in every particular that it would be possible to devise for those of the other.

RECREATIVE REQUIREMENTS AND DISTANCE OF SUBURBS.

Another change in the habits of towns-people which also grows out of the greatly enlarged area already occupied by large towns, results from the fact that, owing to the great distances of the suburbs from the central parts, the great body of the inhabitants cannot so easily as formerly stroll out into the country in search of fresh air, quietness, and recreation. At the same time, there is no doubt that the more intense intellectual activity, which prevails equally in the library, the work shop and the counting room, makes tranquilizing recreation more essential to continued health and strength than until lately it generally has been. Civilized men, while they are gaining ground against certain acute forms of disease, are growing more and more subject to other and more insidious enemies to their health and happiness, and against these the remedy and preventive can not be found in medicine or in athletic recreations, but only in sunlight and such forms of gentle exercise as are calculated to equalize the circulation and relieve the brain.

CHANGE IN THE CHARACTER OF VEHICLES.

Still another important change or class of changes in the habits of the people of towns may be referred to the much greater elaboration which has recently occurred in the division of labor, and the consequent more perfect adaptation to the various purposes of life of many instruments in general use. A more striking illustration of this will not readily be found than is afforded by the light, elegant, easy carriages which have lately been seen in such numbers in your park. When our present fashions of streets was introduced, sedan chairs were yet, as we have shown, in general use for taking the air, or making visits to neighbors. The few wheeled vehicles employed by the wealthy were exceedingly heavy and clumsy, and adapted only to slow travel on rough roads, a speed of five miles an hour, by what was called the "flying coach," being a matter for boasting. Now we have multifarious styles of vehicles, in each of which a large number of different hands have been ingeniously directed to provide, in all their several parts, for the comfort, pleasure, and health with which they may be used. For the sake of elegance, as well as comfort and ease of draft, they are made extremely light, and are supplied with pliant springs. They are consequently quite unfit to be used in streets adapted to the heavy wagons employed in commercial traffic, and can only be fully enjoyed in roads expressly prepared for them. In parks, such roads are provided in connection with other arrangements for the health of the people.

INADEQUATE DOMESTIC ACCESS TO SUBURBS AND PARKS.

The parks are no more accessible than the suburbs, however, from those quarters of the town occupied domestically, except by means of streets formed in precisely the same manner as those which pass through the quarters devoted to the heaviest commercial traffic. During the periods of transit, therefore, from house to house, and between the houses and the park, there is little pleasure to be had in driving. Riding also, through the ordinary streets, is often not only far from pleasant, but, unless it is very slowly and carefully done, is hazardous to life and limb. Consequently much less enjoyment of the park is possible to those who live at a distance than to those who live near it, and its value to the population at large is correspondingly restricted. The difficulties of reaching the park on foot, for those who might enjoy and be benefited by the walk, are, at the season of the year when it would otherwise be most attractive, even

greater, for they must follow the heated flags, and bear the reflected as well as the direct rays of the sun.

But we cannot expect, even if this objection were overcome, that all the inhabitants of a large town would go so far as the park every day, or so often as it is desirable that they should take an agreeable stroll in the fresh air. On the other hand, we cannot say that the transportation of merchandise should be altogether interdicted in the domestic quarters of a town, as it is in a park, and as it now is through certain streets of London and Paris during most hours of the day. On the contrary, it is evidently desirable that every dwelling house should be accessible by means of suitable paved streets to heavy-wheeled vehicles.

NEW ARRANGEMENTS DEMANDED BY EXISTING REQUIREMENTS.

It will be observed that each of the changes which we have examined points clearly towards the conclusion that the present street arrangements of every large town will, at no very distant day, require, not to be set aside, but to be supplemented, by a series of ways designed with express reference to the pleasure with which they may be used for walking, riding, and the driving of carriages; for rest, recreation, refreshment, and social intercourse, and that these ways must be so arranged that they will be conveniently accessible from every dwelling house, and allow its occupants to pass from it to distant parts of the town, as, for instance, when they want to go to a park, without the necessity of traveling for any considerable distance through streets no more convenient for the purpose than our streets of the better class now are.

We may refuse to make timely provisions for such purposes in our suburbs, and we may by our refusal add prodigiously to the difficulty and the cost of their final introduction; but it is no more probable, if great towns continue to grow greater, that such requirements as we have pointed out will not eventually be provided than it was two hundred years ago that the obvious defects of the then existing street arrangements would continue to be permanently endured rather than that property should be destroyed which existed in the buildings by their sides.

THE POSITION OF BROOKLYN.

If we now take the case of Brooklyn we shall find that all the reasons for an advance upon the standards of the street arrange-

ments of the last century which apply to great towns in general, are applicable to her special situation with particular emphasis.

With reference to general commerce, Brooklyn must be considered as a division merely of the port of New York. The city of New York is, in regard to building space, in the condition of a walled town; Brooklyn is New York outside the walls.

The length of suitable shore for shipping purposes which the city of New York possesses is limited. Many operations of commerce cannot be carried on in the northern parts of the island. It may be reckoned upon as certain, that the centre of the commercial arrangements of the port will be in the lower part of New York island.

It may be also reckoned upon as certain that everywhere, within a limited distance back from its shores, all the ground will be required for commercial purposes. The amount of land enclosed by this commercial border remaining to be devoted to purposes of habitation will then be comparatively small, and will be at a considerable distance north of the commercial centre, probably not nearer, on an average, than the upper part of the Central Park, which is more than seven miles from the present Custom House. On each side of it, north, south, east and west, will be warehouses and manufacturing and trading establishments, and, at a little greater distance, wharves and shipping.

The habitable part of New York island will then necessarily be built up with great compactness, and will in every part be intersected with streets offering direct communication for the transportation of merchandise between one part of its commercial quarter and another.

If now, again, we look on the Long Island side of the port we find a line of shore ten miles in length, which is also adapted to the requirements of shipping. It may be assumed that the land along this shore will be wanted, as well as that along the shore of New York island, and for an equal distance back from the water, for mercantile and manufacturing purposes. Supposing that the district thus occupied shall, after a time, reach as far back as the corresponding district on New York island; in the rear of it, (and still at a distance from the commercial centre of the port, not half as great on an average as the Central Park), we find a stretch of ground generally elevated, the higher parts being at an average distance of more than a mile from any point to which merchandise can be brought by water. East of this elevation the ground slopes to the shore, not of a harbor or navigable river, but of the ocean itself—a shore in the

highest degree attractive to those seeking recreation or health, but offering no advantages for shipping, manufacturing or mercantile purposes. At present this slope is occupied chiefly by country seats, and the habitations of gardeners and farmers, and only through the most perverse neglect of the landowners of their own interests is it likely to be built upon for other purposes.

THE OPPORTUNITY OF BROOKLYN.

Here, then, there is ample room for an extension of the habitation part of the metropolis upon a plan fully adapted to the most intelligent requirements of modern town life. A large part of the elevated land which has been referred to lies not more than half as far from the commercial centre as the habitation district of New York island; the ground is better formed with reference to sanitary considerations; it is open to the sea breezes, and lies in full view of the ocean; it can never be enclosed on all sides by commerce, as the habitable part of New York island soon will be; and, its immediate back country being bounded by the sea, the commercial traffic through it is always likely to be light, and will be easily provided for in a few special channels. Thus it seems set apart and guarded by nature as a place for the tranquil habitation of those whom the business of the world requires should reside within convenient access of the waters of New York harbor.

It does not follow, however, that it will be so occupied. In the drift of the population of towns it is generally found that natural advantages alone go for but little, and except in the part controlled by your Commission no other arrangements as yet exist with reference to the convenience, health and pleasure of residents upon this land than such as would have been formed if it were desired to invite to it nothing but factories, ship-yards, or the warehouses and offices of merchants. One or two streets were laid out through it some years ago with an avowed intention of being especially adapted to residences; they were so designed, however, as to offer every advantage to commercial transportation, and consequently, for shops and factories, but, except in mere width, without intelligent regard to the alleged purpose in view. They are nevertheless adapted to serve an important purpose in concentrating such commercial traffic as must pass through their neighborhoods and in furnishing sites for shops and public buildings which will in any case be needed to meet local requirements.

Upon the manner in which there are good grounds for confidence that the elevated district which has been indicated will be occupied

in the future, depends the valuation which can justly and sagaciously be now placed upon it, and upon this valuation mainly depends the financial prosperity of the city of Brooklyn.

HOW THE OPPORTUNITY MAY BE MISUSED AND HOW AVAILED OF.

It would be a perfectly simple problem to cause this land to be given up in a few years almost exclusively to shanties, stables, breweries, distilleries, and swine-yards, and eventually to make the greater part of it a district corresponding, in the larger metropolis which is hereafter to exist on the shores of New York harbor, to that which the Five Points has been in the comparatively small town we have known.

The means by which it may be made a more suitable and attractive place of domestic residence than it is possible that any other point of the metropolis ever will be, are equally within command.

INFLUENCE OF THE PARK ON THE VALUE OF PROPERTY.

The effect of what has already been done, under the direction of your Commission, has been to more than quadruple the value of a certain portion of this land, and we have thus an expression of the most simple character, in regard to the commercial estimate which, at this period in the history of towns, is placed upon the circumstance of convenient access from a residence to a public pleasure-ground, and upon the sanitary and social advantages of a habitation thus situated. The advance in value, in this case, is quite marked at a distance of a mile, and this local advantage has certainly not been attended by any falling back in the value of other land in Brooklyn.

If we analyze the conditions of this change in value, we shall find that it is not altogether, or even in any large degree, dependent upon mere vicinity to the sylvan and rural attractions of the park, but in very large part, in the first place, upon the degree in which these attractions can be approached with security from the common annoyances of the streets, and with pleasure in the approach itself. If, for instance, the greater part of the park were long and narrow in form, other things being equal, the demand for building sites, fronting on this portion of it, would not, probably, be appreciably less than for those fronting on the broader part. Secondly, the advance in value will be found to be largely dependent on the advantages of having near a residence, a place where, without reference to the sylvan attractions found in a large park, driving, riding, and walking can

be conveniently pursued in association with pleasant people, and without the liability of encountering the unpleasant sights and sounds which must generally accompany those who seek rest, recreation or pleasure in the common streets.

There are other things to be valued in a park besides these, but these are the main positive advantages which would make the value of a residence, if upon the park, much greater than if at a distance from it.

HOW THE ADVANTAGES OF VICINITY TO A PARK MAY BE EXTENDED.

So far, then, as it is practicable, without an enlargement of the park in its full breadth and compass, to extend it attractions in these especial respects, so far is it also practicable to enlarge the district within which land will have a correspondingly increased attraction for domestic residences. The further the process can be carried, the more will Brooklyn, as a whole, become desirable as a place of residence, the higher will be the valuation of land, on an average, within the city, and the lighter will be the financial burden of the Corporation.

EXAMPLE OF A FOURTH STAGE OF STREET ARRANGEMENTS.

We come, then, to the question of the means by which such an extension can be accomplished. Although no perfect example can be referred to, there have been in Europe a few works by which a similar end, to a certain extent, has been reached. Of these, the most notable is the Avenue of the Empress, in Paris, which connects a palace and a pleasure-ground within the town, with a large park situated far out in the suburbs. This avenue, with its planted border, occupies so much ground (it is 429 feet in width) that it may be considered to constitute rather an intermediate pleasure ground than a part of the general street system. It is lined with a series of detached villa residences, and building lots facing upon it are much more valuable than those facing upon the park.

The celebrated Linden Avenue, at Berlin, leads likewise from a palace and palace grounds, to a great rural park on the opposite side of the town, through the very midst of which it passes. The finest private residences and hotels of the town, as well as many public buildings, such as art galleries and museums, front upon it, and it is equally convenient for all the ordinary purposes of a street with any other. It, nevertheless, differs essentially from an ordinary

business street, in that the process which we have described, by which wagon-ways were introduced into the old streets, has been carried one step further, the wagon-way having itself been divided as the foot-way formerly was, and a space of ground having been introduced, within which there is a shaded walk or mall, and a bridle-road, with strips of turf and trees.

THE PARKWAY.—A FIFTH STAGE.

The "Parkway" plan which we now propose advances still another step, the mall being again divided into two parts to make room for a central road-way, prepared with express reference to pleasure riding and driving, the ordinary paved traffic road-ways, with their flagged sidewalks, remaining still on the outside of the public mall for pedestrians, as in the Berlin example. The plan in this way provides for each of the several requirements which we have thus far examined, giving access for the purposes of ordinary traffic to all the houses that front upon it, offering a special road for driving and riding without turning commercial vehicles from the right of way, and furnishing ample public walks, with room for seats, and with borders of turf in which trees may grow of the most stately character. It would contain six rows of trees, and the space from house to house being two hundred and sixty feet, would constitute a perfect barrier to the progress of fire.

PRACTICABLE FUTURE EXTENSIONS OF THE PARKWAY.

With modifications to adapt it to variations of the topography and the connecting street arrangements, the plan should eventually be extended from the park, in one direction, to Fort Hamilton, where ground for a small marine promenade should be secured, overlooking the Narrows and the Bay; and, in the other, to Ravenswood, where it should be connected by a bridge with one of the broad streets leading, on the New York side, to the Central Park. A branch should extend from it to the ocean beach at Coney Island, and other branches might lead out from it to any points at which it should appear that large dwelling quarters were likely to be formed, at such a distance from the main stem that access to it from them would otherwise be inconvenient.

There are scarcely any houses at present standing on the general line indicated, and it would pass nearly parallel to, and be everywhere within from fifteen to thirty minutes' walk of the wharves of the East River. The distance between its extreme points would be about ten miles, and the average distance of residences upon

it from Wall street would be about half the distance to the Central Park. Spacious and healthful accommodations for a population of 500,000 could be made within ten minutes' walk of this Parkway.

PLAN OF THE PARKWAY NEIGHBORHOOD.

Our plan, it will be observed, covers more ground than is necessarily required to be taken for the purposes which have been indicated. The object of this is, that, in addition to providing for an enlargement of the park advantages, throughout its whole extent, the parkway may also constitute the centre of a continuous neighborhood of residences of a more than usually open, elegant and healthy character. It is believed that such a neighborhood would not merely be more attractive, to the prosperous class generally, of the metropolis, than any which can be elsewhere formed within a much greater distance from the commercial centre, but that it will especially meet the requirements of an element in the community that is constantly growing larger, and that is influenced by associations and natural taste that unquestionably deserve to be fostered and encouraged. A typical case, for the sake of illustrating the class in view, may be thus presented. A country boy receives a common school education, exhibits ability, and at a comparatively early age finds himself engaged in business in a provincial town; as his experience and capacity increase, he seeks enlarged opportunities for the exercise of his powers, and, being of superior calibre, ultimately finds himself drawn by an irresistible magnetic force to the commercial cities; here he succeeds in becoming wealthy by close attention to his specialty, and the sharp country boy becomes the keen city man. Trees and grass are, however, wrought into the very texture and bre o f his constitution, and, without being aware of it, he feels day by day that his life needs a suggestion of the old country flavor to make it palatable as well as profitable. This is one aspect of the natural phenomena with which we are now attempting to deal; no broad question of country life in comparison with city life is involved; it is confessedly a question of delicate adjustment, but we feel confident that whenever and wherever, in the vicinity of New York, this delicate adjustment is best attended to, and the real needs of these city-bred country boys are most judiciously considered, there they will certainly throng. We do not, of course, mean to argue that the tastes to which we have referred are limited solely to citizens whose early life has been passed in the country, but only

that the existence of the special social element thus typified gives one of the many assurances that such a scheme as the proposed parkway neighborhood would be successful, if judiciously carried out within the lines suggested, before the demand is more or less perfectly met in some other locality.

It is clear that the house lots facing on the proposed parkway would be desirable, and we assume that the most profitable arrangement would be to make them, say 100 feet wide, and of the full depth between two streets, convenient sites for stables being thus provided. The usual effect of such a plan of operations would be an occupation of the rear street by houses of inferior class, and it is with a view of avoiding any such unsatisfactory result that the design is extended over four blocks of ground. If the two outermost streets are widened to 100 feet, and side-walks, shaded by double rows of trees, introduced in connection with them, the house lots on these streets will be but little inferior to those immediately facing the parkway, for they also will be of unusual depth, and will be supplied with stable lots that can be entered from the street already mentioned, which should be made suitable for its special purpose, and with the idea that it is only to be occupied by such buildings as may be required in connection with the large lots which are intended to be arranged throughout back to back, with the stable street between them.

Thus, so far as this arrangement should be extended, there would be a series of lots adapted to be occupied by detached villas, each in the midst of a small private garden. This arrangement would offer the largest advantages possible to be secured in a town residence, and there is no good reason why they should not be of a permanent character. With the modern advantages for locomotion which would be available, the departure from the old-fashioned compactness of towns might be carried to this extent, in that part of them devoted to residences, without any serious inconvenience. The unwholesome fashion of packing dwelling-houses closely in blocks grew, as we have shown, out of the defensive requirements of old towns; it may possibly be necessary to continue it under certain circumstances, as, for the reasons already indicated, on the island of New York, but where there is no necessary boundary, either natural or artificial, to the space which is to be occupied by buildings, as is the case with Brooklyn, it is, to say the least, unwise to persist in arrangements which will permanently prevent any indulgence of this kind.

Those who availed themselves of the opportunity here proposed to

be offered would not benefit themselves alone, but the whole community. The Romans seem to have been wiser than we have been in this particular. Rich people were offered every facility for surrounding their houses with open garden spaces, and the larger part of the Eternal City was composed of what we should now term detached villas, while in no part was it permitted that a new house, even though intended for the residence of slaves, should be built within five feet of walls previously erected.

How far it might be desirable for property-owners to extend the plan in the peculiar form suggested is, of course, an open question, depending on the anticipated demand for lots of the size indicated, but it will be readily seen that as the proposed subdivisions are not of the ordinary contracted character, a comparatively small number of residents will suffice to fill up a considerable stretch of ground laid out in this way, and it is also evident that if, within a reasonable time, it should become certain that a specific number of blocks would be carried out on this plan, the lots included within the boundaries determined on would not require to be improved in regular succession, but would be selected with reference to slight, fancied advantages anywhere along the line, every purchaser feeling satisfied that the main question of good neighborhood had been settled on a satisfactory basis at the outset.

ADVANTAGES OF THE PARKWAY LIKELY TO BE SECURED TO BROOKLYN EXCLUSIVELY.

Having so fully described, in its principal aspects, the question of the desirability of developing, in Brooklyn, a plan of public improvement of the general character indicated, it may be proper for us to enquire whether the broad streets which are proposed to be opened on New York Island, under the name of Boulevards, during the next few years, are calculated to interfere with the probable success of such a scheme.

While the Central Park was in its earlier stages of progress, a commission was appointed to prepare a plan for laying out the upper end of New York island, and some years later this responsibility was transferred to the Central Park Commission, whose plan is published in their last annual report.

The same document contains an elaborate discussion of the subject by Mr. A. H. Green, on the part of the board, and as our professional relations with the Commissioners have not been extended over this department of their work, and we are not aware of their intention in regard to this improvement, except so far as it is set

forth in the plan and public statement above mentioned, we make, for the purposes of this report, the subjoined quotation, which sets forth clearly the limitations that are to be recognized in New York as controlling the designs of the Commissioners:

"We occasionally, in some country city, see a wide street ornamented with umbrageous trees, having spaces of green interposed in its area, the portion used for travel being very limited. This arrangement is only possible where thronging population and crowding commerce are not at liberty to overlay and smother the laws that are made to secure the legitimate use of the public streets. It would seem inexpedient, at any rate, until some better permanent administration of our streets is secured, to attempt these fanciful arrangements to any great extent in a commercial city, under our form of government."

It is clear, therefore, that the Central Park Commissioners have no intention of carrying out, in New York, any such scheme as the "Parkway," and consequently if, as we believe, the requirements that such a plan is designed to meet are already felt to exist in this community, Brooklyn can soon be made to offer some special advantages as a place of residence to that portion of our more wealthy and influential citizens whose temperament, taste or education leads them to seek for a certain amount of rural satisfaction in connection with their city homes.

Although the plots of ground appropriated to the Brooklyn and Central Parks are entirely different in shape, while their landscape opportunities and general possibilities of design are equally dissimilar, a generic family resemblance will yet be found between the two pleasure-grounds, simple because they are both called into existence to meet the same class of wants, in the same class of people, at the same metropolitan centre.

The Brooklyn parkway, on the other hand, will, if executed, be a practical development of the ideas set forth in this report, which seem to be particularly applicable to the city of Brooklyn, and which, as we have shown, are considered by those in authority to be unsuitable for development in the city of New York; it will consequently have no such family resemblance to the New York boulevards as exists between the two parks, and its attractions will, for a time at any rate, be of a special and somewhat individual character.

In pursuing the general question of approaches to the park, in accordance with your instructions, we have thus been led to the examination of some other scarcely less important topics, and although

the consideration of such problems as those we have adverted to can only come before your commission in an indirect and incidental way, we have thought it best to lay the results of our study thus fully before you, because during the investigations and consultations of the past year it has become more and more evident that the early adoption of some such scheme as the "Parkway would have the effect of adding very greatly to the advantages which your commission is endeavoring to secure to the citizens of Brooklyn in the construction of the park.

Respectfully,

OLMSTED, VAUX & CO.,
Landscape Architects and Superintendents.

BROOKLYN, *January* 1*st*, 1868.

ENDALE ARCH.

REPORT OF C. C. MARTIN,

Engineer in Charge.

Park Commission, City of Brooklyn,
Engineer's Office, January 1st, 1868.

Messrs. Olmsted, Vaux & Co.,
Landscape Architects and Superintendents.

Gentlemen: In the following report will be found a general description of the work executed on the park during the year 1867.

Previous to the date of my appointment as engineer in charge in May last, the position was held by Mr. J. P. Davis, with whom, before assuming its duties, I had such opportunity for consultation, as was necessary to enable me to comprehend the nature and extent of the work that had been carried on in the early part of the year.

PLAZA.

During the season the Plaza mounds have been completed, planted, and enclosed with a temporary fence, nearly all of the curb has been set around the interior of the Plaza, and the grading has been done, and a portion of the pavement laid.

ROADS.

During the season two distinct kinds of roads have been constructed, viz.: the Telford road and the rubble road. The preparation of the road bed, the drainage, and the surfacing are the same for both.

The road bed is prepared by bringing it to a sub-grade, twenty-seven inches below the finished grade. This is carefully shaped to correspond with the finished road, and thoroughly rolled.

Upon this road bed is placed a layer of the coarse sand found on the park, twelve inches in thickness, which is properly formed and rolled. Upon this is laid with care a course of Telford blocks, seven inches in depth; next is a layer of four inches of McAdam stone, and this is followed by three inches of Roa Hook gravel.

The rubble road differs from the Telford mainly in the substitution of sound rubble stone in the place of the Telford blocks.

As water and stone are the great destroyers of roads, one of the first requisites in the construction of a good road is to provide ample and effective drainage, both of the surface and the substructure.

To secure the proper sub-drainage, tiles are laid on the line of each gutter, at a depth of three feet and six inches below the surface, and are connected directly with the silt basins.

To ensure the speedy removal of surface water, a crown of from six to nine inches, depending upon its width, is given to the roadway.

The gutters were constructed two feet in width, three inches in depth, and made of the very best quality of paving brick, laid on edge and well bedded in cement mortar.

At suitable intervals along the gutters, silt basins were placed, having grated inlets, through which the surface water enters, and thence passes into the general drainage system.

The Telford blocks were obtained from the boulders which abound on the park, and furnish a very superior material.

The blocks are somewhat regular in form, being from four to seven inches in width, from five to nine inches in length, and about seven inches in depth. They are generally broken slightly, wedge-shaped; and are laid with the broadest base downward.

Wedge-shaped cavities are thus formed in the upper surfaces; these are filled with spalls which are well rammed, forming a close and comparatively smooth surface to receive the McAdam stone.

Suitable McAdam stone is found in great abundance on the park. The stones were broken by a Blake's patent stone breaker, which readily breaks to any required size, from forty to sixty cubic yards per day.

The broken stone, in falling from the machine, passes over screens which remove the dust and finely-broken stone, leaving the balance quite clean and of uniform size. The size generally used is from one and a half to two and a half inches in the largest diameter.

The gravel used for the final surfacing of the road is obtained from Roa Hook, on the Hudson River, and is of a very superior quality, being of uniform hardness and free from dirt.

The sand and gravel for the sub-structure of the roads, gutters, &c., is obtained in great quantities on the park.

ARCHWAYS.

But two archways have been commenced this season. One near the main entrance, and the other in the East Wood.

In making the excavation for the foundation of the first-mentioned structure, a tenacious clay saturated with water was found, which was entirely unsuited for a stable foundation.

The excavation was carried below the line of permanent saturation, and foundation piles driven from eight to sixteen feet before reaching a firm substratum. The piles were sawed off about fifteen inches above the bottom of the excavation and the spaces between, and for one foot outside of them, was filled with cement concrete and well rammed. Longitudinal timbers, twelve inches square, were placed on the tops of the piles, and were secured to them by iron bolts seven-eighths of an inch square, and seventeen inches long. Upon these, at right angles to them, were placed other timbers of the same size, which were notched down so as to interlock with those first laid. These timbers were all completely imbedded in cement concrete. Upon these timbers, planks six inches thick were laid, so as to leave alternate spaces equal in width to the plank. These spaces were filled with concrete.

The timber work is all placed at such depth as to ensure its durability; being below the line of permanent saturation.

Upon this sub-structure the large stones of the foundation masonry were laid. The balance of the foundation to within one foot of the grade of the walk is constructed with large blocks of gneiss rock laid in cement.

The face stones above the walk to the springing line of the arch are of Hudson River "mountain graywacke." Work was suspended at this point for the season.

The archway in the East Wood is designed to carry a carriage and bridle-road over a walk.

The facings are of Ohio and Belleville sandstone alternating, and the interior arch is of common hard brick. This is to be lined with panel work in wood.

In excavating for the foundation of this archway, a coarse compact gravel was found, and the excavation was carried only three feet

below the grade of the walk. A layer of concrete one foot in thickness was laid, and upon this the masonry commenced. The masonry of this structure was completed late in the season. The wood work is not yet complete.

To render this archway impervious to moisture, great care was taken to fill all the joints well with mortar, then a coating of cement mortar was smoothly and evenly laid over the entire outside of the arch and walls. When this had become hard, two coats of asphalt were applied; next to this, on the vertical walls, a layer of clay puddle, one foot in thickness, was placed. This extended upon the inclined backing of the arch, and was reduced in thickness to a thin edge at the top. Outside of the layer of clay was carried up a dry rubble stone wall, about one foot thick, and outside of this the earth filling.

At the base of this rubble wall, which extends one foot below the grade of the walk, there was laid a tile drain connecting with silt basins at either end of the bridge.

The last layer of asphalt on the crown of the arch overlaps the thin edge of the puddle wall, and thus carries all water which reaches it outside of the puddle, and directly into the dry wall, whence it finds its way into the drain without coming in contact with the masonry.

CULVERT ARCH.

In addition to the above masonry, a culvert arch has been constructed in connection with the Deer Paddock pool, and is located between it and the Battle Pass pool. The foundation is of cement concrete, one foot in thickness. The interior work is constructed of gneiss rock, and is coursed rubble masonry. The facing is of Ohio and Belleville sandstone.

WALKS.

For gravel walks, the sub-grade was fixed at twelve inches below the finished grade; the surface at sub-grade was made to conform accurately to the finished cross-section and grade of the walk, and thoroughly rolled. Upon this sub-grade seven inches of rubble stone were laid, upon this two and a half inches of coarse park gravel, and this was followed by one and a half inches of finer park gravel. The depth of stone and gravel at this stage of the construction was ten and one-half inches. The remaining one and a half inches has been, on the walks already constructed, formed of screenings from the McAdam stone.

A large portion of the walks finished this season have been surfaced to a depth of three inches with tar concrete; the sub-structure being the same as for gravel walks.

Two kinds of concrete have been used, one known as the Burlew patent, in which boiled pine tar is used, and the other the Scrimshaw patent, in which raw coal tar is used. The concrete is prepared by mixing these tars with gravel or fine broken stone, coal ashes, &c.

In laying this material any required form is readily given to the walks and gutters.

Drain tiles of two inches internal diameter were laid under all walks requiring it, at a depth of three feet six inches, and were connected with the walk silt-basins.

Also, along the center line of the walks and generally in the same trench with the tile, were laid glazed vitrified pipe which form a part of the general drainage system of the park.

At proper intervals under the walk gutters, silt-basins were located to receive the surface drainage and conduct it through branch pipes into the general drainage system.

POOLS.

Two pools have been completed each with a depth of three feet of water.

The play-ground pool is situated in a natural depression, and is approached by winding walks with rustic steps.

The Battle Pass pool lies at the foot of a steep declivity and is shaded by natural forest trees.

The soil has been removed from the greater part of the site of the proposed lake and reserved for future use, and several thousand yards of excavation have been made.

The northern part of the lake has been nearly completed and about five acres prepared temporarily for a skating pond.

The supply of water for the pools and lake is at present obtained from the park drainage, and the Nassau Water Department.

AGRICULTURAL DRAINAGE.

For all clayey or retentive soils a thorough system of tile drainage has been adopted, and as far as the grounds have been finished, has been carried out.

The sizes of tile have been carefully adapted to the work required of them.

The quantity of water that will reach these drains, has been com-

puted with an assumed maximum rainfall of two inches in an hour, and under the supposition that one half of that amount will reach the drains within twenty-four hours.

Steps have been taked to inaugurate a series of observations upon the rainfall in connection with this system of tile drainage, from which it is expected that valuable information will be obtained in regard to the proportion of rainfall which reaches the tile in a given time.

None but round pipe tile have been laid, and closely fitting collars have been used throughout for the smaller diameter, and even upon the three inch mains whenever they could be obtained.

The systems were arranged with mains, secondary mains and laterals. The mains were generally three inches in diameter, the secondary mains two inches, and the laterals one and a half inches.

Generally the mains followed the principal depressions in the surface, the secondary mains, the minor depressions, and the laterals, were laid out at intervals varying from twenty-five to forty-five feet, depending upon the character of the soil, and were nearly at right angles to the secondaries.

WATER SUPPLY.

The water supply for the park water-pipe system is at present obtained from the Nassau Water Department.

A sixteen inch main of this system connects with a twenty inch main of the city distribution at a point near Prospect Hill reservoir.

This main has branches of various diameters, diverging to different parts of the park.

Hydrants are placed at convenient points along the drives for obtaining water for sprinkling the roads, walks and for other purposes.

The patent cement pipe, manufactured by the Patent Water and Gas Pipe Company, of Jersey City, has been adopted.

It affords me great pleasure to acknowledge the very efficient assistance I have received from Mr. John Bogart and Mr. John Y. Culyer in their respective departments.

The rapid and uninterrupted progress of the work this season has been facilitated alike by the promptness with which all necessary supplies and material have been furnished by Mr. Culyer, and by the intelligent energy displayed by Mr. Bogart, aided by his efficient corps of assistants, in laying out the work to be executed.

A degree of interest in the work and a harmony of action has been exhibited throughout the whole park organization which has been especially beneficial to the work and gratifying to myself.

In the labor department, Mr. John Maguire, the general foreman, has manifested an ability and energy fully equal to the arduous duties of his responsible position, and has performed them in a highly creditable and satisfactory manner.

C. C. MARTIN,
Engineer in Charge.

REPORT OF JOHN BOGART,

ASSISTANT ENGINEER IN CHARGE.

PARK COMMISSION, CITY OF BROOKLYN,
ENGINEER'S OFFICE, *January* 1*st*, 1868.

C. C. MARTIN, Esq.,
Engineer in Charge.

SIR: I submit herewith a report of the progress of construction and the amount of work done upon the park during the past year.

THE TOPOGRAPHICAL SURVEY.

This survey has been extended over the whole area of the park west of Flatbush avenue, and is now in progress upon the ground east of that avenue. The topographical maps have been completed for the area surveyed, being 468 acres. The most elevated point upon the park is at the summit of Lookout Hill, and has a height of $185\frac{6}{10}$ feet above mean high water. The lowest point is at the junction of Franklin avenue and the Coney Island road, and is $53\frac{7}{10}$ feet above mean high water. This shows the extreme difference of elevation of surface within the park to be $131\frac{9}{10}$ feet.

DEVELOPMENT OF THE PLAN.

Very careful study has been, and is constantly, given to the problem of developing the adopted design in a way which will produce the artistic effect required by the most economical arrangement and distribution of material. The grades and lines of the drives, bridle-roads and walks, the surfaces and inclinations of the slopes, meadows and concourses, the heights of the fillings and the depths of the excavations have been determined in accordance with this principle. Of course, this study is made in advance of the operations of the construction force. Working maps and profiles are prepared and estimates of quantities made, and every means practicable, under the peculiar conditions of landscape work, are taken to give to the work on the park the benefit of the rules and experience of engineering science.

Tabular statements of the work already done, accompanying this report, will, to a certain extent, suggest the breadth and variety of the subjects necessarily occupying the constant attention of the engineers; and these subjects will, on examination, be found to be of an extent and diversity seldom combined in one undertaking.

PROGRESS OF CONSTRUCTION.

During the year the whole area of the Plaza has been brought to the established sub-grade, and nearly one half has been paved with stone block pavement. The Plaza walks have been constructed, but are not yet paved. Trees have been set out along the line of the interior walks. The mounds have been finished, seeded and planted.

The exterior slopes of the park have been formed along Flatbush avenue, from the Plaza to the end of the Deer Paddock, and along Ninth avenue, from the Plaza to the vicinity of First street—in all, a length of about 4,200 feet.

The north open ground has been completed and seeded as far as the line of First street, and the ground has been worked considerably farther into the park, but is not yet finished.

The ground in the woodland, in the vicinity of the East Wood lanes, have been worked over and seeded. About $1\frac{1}{7}$ miles of the eastern branch of the main circuit drive have been paved. The finished drive commences near the main entrance, and passing between the North-open and the childrens' play grounds, continues through the Battle Pass, and along the Deer-Paddock. Branching at the East Wood lanes, it extends, on the left, to the upper arm of the lake, now prepared for skating, and on the right to a temporary junction with the Coney Island road.

The lines and grades have been established, and considerable work done upon the Brier Hill extension of this drive, through and beyond the carriage concourse, to the point where it will cross the proposed bridge over the arm of the lake. Some work has also been done upon this drive beyond the location of the bridge. The Brier Hill concourse, as enlarged, has been finished, and is ready for paving. The drive connecting the main circuit with Flatbush avenue at the Willink entrance, has been graded, but has not yet received the road metal.

A portion of the lower carriage concourse, and the whole of the great pedestrian concourse have been graded, the material obtained from the lake excavations being used for this purpose. These graded

surfaces have been made serviceable as places of deposit for stone, top soil, and other material, hereafter to be used in that vicinity.

The grading of the eastern Bridle Road has been extended through the woodland and ravine, to the point where, with the stream and footpath it is to pass under the central drive, and thence to where it meets the eastern drive opposite the Willink Entrance. None of the bridle road has yet been paved.

A number of the walks in the childrens' district have been finished, as has also most of the walk which leads to this district from the main entrance. The walk along the east side of the North-open has been finished for a length of 1,350 feet, and the line has been extended, and is ready for paving as far as the ravine. The walk has been graded from the childrens' district, along the Deer Paddock, and through the archway under the drive to the lake; also the walk connecting the Willink gate with that last mentioned.

The soil has been stripped from a large portion of the lake district, and piled for future use. The arm of the lake lying on the west side of Brier Hill has been excavated and puddled, and an area of about five acres has been made ready for skating this season. Considerable excavation has been made for the main lake at points where the force could be worked to the best advantage. It is proposed to establish the Summer level of water in the lake at an elevation of 63 feet above mean high water, and to make the depth in Summer seven feet. The pools in the childrens' district, and near Battle Pass, have been finished, and considerable work has been done for the Deer Paddock stream.

Two archways have been commenced. That for the passage of the main eastern walk under the circuit drive, near the main entrance, has been carried up to the level of the springing line of the arch.

The masonry of the archway under the drive, near the present skating lake, has been completed, and the drive graded over the arch. A culvert arch, with one façade of rock-faced masonry, has been built at the outlet into the Deer Paddock of the stream from the small pool near Battle Pass.

Excavations have been made, and foundation stone delivered, so that masonry can be commenced early in the coming Spring for two other archways.

$11\frac{1}{10}$ miles of vitrified pipes and tiles for drainage of roads and walks, for collecting surface water, and for the agricultural tile drainage of meadow-lands, have been laid, with proper inlets and

basins. The details of this work are shown by the Drainage Map and tabular statement accompanying this report.

7,121 lineal feet of wrought iron and cement pipe, for the water distribution, have been laid by contract. The location of the pipes, hydrants, and stop-cocks, and the details of this work, are shown by the tabular statement and the accompanying Water Distribution Map.

A large amount of peat at the proposed location of the pools has been excavated. This peat, treated with proper chemical re-agents, and composted with different manures, will be of great value in the improvement of the park soil. Manures of different kinds have been procured during the year, the particulars in regard to which are given by Mr. Culyer in his report, and preparations have been made for having on hand, for future use, the fertilizing materials especially suitable to the requirements of the work.

7,374 trees and shrubs have been set out upon the Plaza mounds and walks, and upon the finished slopes and meadows.

The following tables will exhibit a condensed statement of work done during the year:

DRIVES.

Drives finished,	125 feet wide	.....	500	lineal feet.
"	46 "	.....	875	"
"	40 "	.....	2,550	"
"	30 "	.....	1,500	"
"	23 "	.....	600	"
	Total length of drive finished	.....	6,025	"
		or,	1 1-7	miles.

Drives in progress,	150 feet wide	.....	1,300	lineal feet.
" "	60 "	.....	250	"
" "	50 "	.....	250	"
" "	46 "	.....	700	"
" "	40 "	.....	3,200	"
" "	35 "	.....	1,360	"
" "	23 "	.....	1,225	"
	Total	.....	8,285	"
		or,	1 3-5	miles.

BRIDLE ROADS.

Bridle roads in progress, 20 feet wide	2,800	lineal feet.
" " 16 "	1,400	"
" " 8 "	600	"
Total	4,800	"

WALKS.

Walks finished, 16 feet wide	3,400	lineal feet.
" 12 "	725	"
" 10 "	550	"
" 9 "	200	"
Total	4,875	"

Walks in progress, 30 feet wide	1,367	lineal feet.
" " 20 "	4,280	"
" " 16 "	8,900	"
" " 12 "	1,300	"
" " 10 "	700	"
Total	16,547	"

DRAINAGE.

	During 1867.	Total to Jan. 1st, 1868.
18-inch Vitrified pipe laid—lineal feet	589	589
15 " " "	3,205	5,056
12 " " "	3,772	5,790
10 " " "	489	489
8 " " "	3,338	3,338
7 " " "	220	220
6 " " "	5,409	5,409
5 " " "	752	752
4 " " "	767	767
2½ " " "	120	675
6 " Cement pipe laid "		142
Total "	18,661	23,227

Tile pipe laid—3 inch	14,688	lineal feet.
" 2½ "	25	"
" 2 "	14,498	"
" 1½ "	5,880	"
Total	35,091	"

WATER DISTRIBUTION.

Wrought iron and cement pipe for water distribution	16 inch	3,023	lineal feet.
" "	12 "	696	"
" "	6 "	2,381½	"
" "	4 "	1,020½	"
Total		7,121	"

Blow-offs and branches	31
Stop-cocks	8
Hydrants	13

AREA OF OPERATIONS UP TO JANUARY 1st, 1868.

Area worked over up to January 1st, 1867	61	acres.
" " 1868	254	"
" during year 1867	193	"
Area of surface finished—meadows and slopes	42	acres.
" " woodland	15	"
Total	57	"
Area of surface seeded	45	acres.

MASONRY.

Amount of brick masonry	743	cubic yards.
" concrete for masonry	52	"
" stone masonry	1,122	"
" concrete for masonry	256	"
" stone dressed for bridges	144	"
" " steps	770	lineal feet.
" curb-stone dressed	9,448	"
" " laid	23,825	"
" Belgian pavement	71,289	sup. feet.
" cobble pavement	2,545	"

AMOUNT OF STONE BROKEN.

McAdam stone by stone-breaker	3,234	cubic yards.
Telford stone by hand	5,404	"
Spal stone by hand	4,781	"
Total	13,419	"

MATERIAL MOVED.

		During 1867.	Total to Jan. 1st, 1868.
For grading and shaping drives, bridle-roads, walks, meadows, and slopes..	Cub. yds.	134,098	219,279
For lakes, pools, and streams	"	136,613	136,613
For Plaza	"	123,764	170,355
For sewers and drains	"	25,191	39,090
Soil	"	184,277	249,477
Peat	"	20,596	44,739
Clay	"	18,932	24,838
Manures and compost	"	10,787	10,787
Stone	"	34,769	52,212
Gravel and sand	"	6,933	6,933
Miscellaneous	"	13,237	13,731
Total cubic yards		709,197	968,054

THE SMALLER CITY PARKS.

The smaller parks in the city of Brooklyn having been placed under the care of the Commission during the year, surveys were made, and topographical maps constructed, as a basis for designs for their improvement. At Carroll Park no proper provision had been made for the escape of surface water, which overflowed the walks at every storm. An inlet basin has, therefore, been built at the lowest point of the ground, and connected with the Smith-street sewer. This has been located with reference to a future more complete system of drainage.

The fence of this park has been painted, and the gas-lamps which were unserviceable have been renewed. The fence of the City Park has been repaired. Nothing in the way of construction has been done at the Washington or City Hall Parks.

EXTERIOR WORK.

A survey of the Kings county parade ground and the adjacent roads and streets has been made, and a topographical map constructed. A careful test survey has been made of the lines for the proposed extension of Clinton avenue, from Atlantic avenue to the Plaza.

A topographical examination and preliminary survey have been made along the location of the proposed parkway, from the Plaza to the City Line.

THE ENGINEER CORPS.

The general organization of the Engineer Corps remains as at the time of the last annual report. The assistant engineers—Mr. Wilson Crosby, Mr. James C. Aldrich, and Mr. L. Y. Schermerhorn—have rendered careful and appreciative service upon the divisions of the work entrusted to them; and the other members of the corps have been constant and faithful in the discharge of their respective duties.

Accompanying this report will be found a map showing the general progress of the work; a map showing the drainage system, as far as executed; and a map showing the water distribution now laid down.

Respectfully submitted,

JOHN BOGART,

Assistant Engineer in Charge.

REPORT OF J. Y. CULYER,

ASSISTANT ENGINEER IN CHARGE.

PARK COMMISSION, CITY OF BROOKLYN,
ENGINEER'S OFFICE, *January 1st*, 1868.

Mr. C. C. MARTIN,
Engineer in Charge.

DEAR SIR: The following is a report of means and materials employed in the construction and maintenance of the park, during the year 1867:

FORCE EMPLOYED.

The earlier part of the year 1867 was marked by an unusual prolongation of severe weather and continued frost, which was so far favorable to the advancement of the work as it secured good roads and runs.

This work mainly consisted in heavy earth excavation in the Plaza district, mucking and composting in the pigeon ground, and the general collection, assorting and preparing of stone, for roads, walks, &c.

These operations gave employment to an average force, comprised of horses and carts, teams, stonebreakers and laborers, of about five hundred men, through the months of January, February and March.

Active spring operations were resumed early in April, with a force of six hundred men, increased to one thousand at the close of the month.

In the early part of the summer, a large area of new ground coming under the jurisdiction of the Commission, the force was gradually and continuously increased, to meet the necessities of the developing work, in this newly acquired district.

The following statement will show the average number of employed force during the several months of the year, together with a comparative table of force for a partial corresponding season of 1866:

STATEMENT SHOWING THE AVERAGE NUMBER OF EMPLOYED FORCE FOR THE MONTHS AND YEARS NOTED.

Work Commenced on the Park, July, 1866.

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1866.	.....	.....	.....	.....	.....	.....	325	450	550	620	700	725
1867.	700	630	410	800	1,000	1,150	1,200	1,525	1,750	1,825	1,800	1,100

There were 289 working days for the year, giving an average of 24 days per month.

From the foregoing statement it will be seen that the largest force employed, collectively, at any time during the season, was between eighteen and nineteen hundred men, although, owing to changes continually occurring, employment, for a period of from half a day to three days, was given to at least three thousand different individuals during the year.

The scheme of organization remains substantially the same as last year, consisting in the division of the labor force into gangs of convenient size, each with a competent foreman and assistant, the whole being under the direct charge and supervision of a general foreman, who is responsible for the efficiency of the force. He suggests all details, and transfers, and recommends promotions, removals, &c.

The foremen are responsible for the exact execution of the orders they receive from the general foreman, and are required to make their men work industriously and effectively during all the time for which they give them credit in their time-books. When, therefore, from any cause, they cannot secure profitable labor, with good order, from any man, cart, or team, they must immediately withdraw him or it from the work, and so of the whole gang, or any part of it.

To enable them to carry out these requirements, foremen are given the power of suspending any one, or any number, or all, of their men, teams and carts, at any moment, and are required to report every day in writing (a convenient printed form being pro-

vided for the purpose), the amount of labor performed by all their men, together with the names of any for whose work they are responsible, who fail to do the service required of them,

This places the laborer in direct responsibility to the foreman under whose eye his work must be performed; and it is the foreman's fault if he cannot control his men, and secure an efficient and industrious gang.

Abuse of authority, on the foreman's part, is held in wholesome check by the fact, known to all the employes (by a printed notice conspicuously posted on each tool-cart on the park), that redress for wrongs may be had by application at the Superintendent's Office on the park. Calls for this purpose are made almost daily, when the work is in progress.

In addition to the ordinary labor force, a large number of mechanics have been employed this year, consisting of stone-cutters, stone and brick masons, blacksmiths and carpenters.

These were classified in gangs, and placed under the charge of a general foreman, having special qualifications for their supervision and the management of mechanical works.

DISCIPLINE.

The following statement, being an abstract of the office record, will show the number of suspensions and discharges which have been made during the year:

DISCHARGES.

Number of Foremen discharged for insubordination	1
" Foremen discharged for inefficiency	1
" Assistant Foremen discharged for inefficiency	8
" " discharged for other offiences	2
" Laborers discharged for neglect of duty	75
Laborers and others discharged for inefficiency	300

SUSPENSIONS.

Number of Foremen suspended for breach of discipline	6
" Assistant Foremen suspended for breach of discipline	2
" Laborers, &c., suspended for breach of discipline	85

Discharges of foremen, assistants, laborers, &c., result mainly through their failing to meet the requirements demanded of them in their several capacities.

The suspensions were of a disciplinary nature for minor offences.

During the year one laborer has been promoted to the office of an Assistant Foreman.

Seven Assistant Foremen have been promoted to the office of Foremen, and two Foremen have been advanced to the rank of Assistant General Foreman.

KEEPERS AND THE PUBLIC USE OF THE PARK.

During the year the temporary watch force referred to in the report of 1866, has been enlarged and reorganized with reference to the use of the park by the public.

In addition to the ordinary patrol of the park, with a view to the enforcement of the ordinances of the Commission, guiding and instructing visitors, checking slight misconduct, and reporting accidents, disorder and irregularities occurring in any part of the park, at any hour of the day or night, the force has also had the duty of guarding the large number of tools and supplies which are necessarily much exposed, especially during the intervals when the labor force is not at work.

This duty, though performed with commendable zeal, has not entirely prevented pilfering.

The following is a list of arrests made:

For stealing shrubbery	1
" " lumber and tools	4
" obstructing a keeper in performance of duty	1
Total	6

The organization of the force during the latter part of the year has been as follows:

2 Head Keepers; 4 Ward Keepers; 8 Keepers.

An auxiliary body of forty-eight men have also been employed, who have served a part of the time as garden workmen; five of the latter have been detailed to answer the inquiries of visitors at the park gates, keep a record of visitors coming in, prevent the entrance of forbidden articles, to guard property in their immediate vicinity, and to give instructions to those bringing materials for use on the park; six men have been employed in the care of smaller parks.

The following statement shows the number of visitors from Sat-

urday, October 20th, on which day carriages were first admitted to a portion of the park drive:

SUMMARY OF VISITORS ON BROOKLYN PARK FROM OCT. 20 TO DECEMBER 31, 1867.

DATE.	Single Carriages.	Double Carriages.	Equestrians.	Pedestrians.
Week ending Oct. 26.....	3,341	2,133	1,163	10,569
" Nov. 2.....	4,047	2,269	1,247	14,185
" " 9.....	3,259	2,183	1,169	8,576
" " 16.....	2,895	2,274	1,183	3,386
" " 23.....	3,225	2,577	1,558	6,322
" " 30.....	2,242	1,606	1,072	4,465
" Dec. 7.....	1,705	1,128	982	1,673
" " 14.....	818	573	305	1,270
" " 21.....	1,003	836	85	474
" " 28.....	1,411	1,166	645	1,724
Three days, Dec. 29, 30, 31.	802	596	357	1,598
Total.....	24,748	17,341	9,766	54,242

The weather, during the month of December was very unfavorable for out-door exercise.

Estimating that four persons accompanied each two-horse vehicle, and two persons each one-horse vehicle, the total number of visitors for the period above noted was 180,868.

The largest number of visitors on any one day, entered on Sunday, October 27th, viz., 14,906.

SUPPLIES.

Herewith please find a table, showing, under six hundred heads, the various tools, materials and supplies of all kinds, for the general care and proper disposition of which I have been responsible, comprising all that have been purchased for the park from the outset of the work. The table also shows, under each head, the quantities received, issued and on hand, at this date; the deficiency under each head is likewise shown, most of which is due to the loss by fire, reported last year.

While active operations are in progress, an amount of tools considerably in excess of the number of men employed is required to supply temporary deficiencies, occasioned by repairs and exchanges.

The supply of rollers, derricks, derrick-gearing, trucks, wagons, carts, &c., belonging to the Commission, are generally in good con-

dition, and all tools susceptible of repair are now being overhauled and made serviceable for work in the spring.

The following quantities of manure, night soil and fertilizing materials have been received: 1,195 two-horse loads of selected horse manure, equivalent to about 3,346 cubic yards. About 3,654 cubic yards, or 1,305 two-horse loads have been received, under contract, from the several city railroad stables.

There have also been received:

2,462	loads of night soil (used in composting).
136	loads disintegrated bamboo fibre.
328½	barrels of fish offal.
20,000	pounds of fish guano.
35,114	" of super-phosphate of lime.
16,011	bushels of shell lime.
1,755	" of marl.

The park nurseries now contain the following stock:

Deciduous trees	13,402
Evergreen "	11,671
Shrubs	20,911

Besides which the Commission possesses a large quantity of rooted cuttings of shrubs.

The employees co-operating with me in the several departments under my charge, have efficiently discharged the duties assigned them.

Respectfully submitted,

JOHN Y. CULYER,
Assistant Engineer in Charge.

REPORT ACCOMPANYING

A

DESIGN FOR WASHINGTON PARK.

To the President of the Board of Commissioners of Prospect Park, Brooklyn:

Sir:—In accordance with your instructions, we have prepared, and herewith submit, a design for laying out the public square known as Fort Greene, or Washington Park.

The ground to be improved—over thirty acres in extent—is in the heart of the city, and is mainly elevated above the adjoining land. The rise in parts is so considerable that the surrounding buildings are overlooked, and interesting views are commanded, extending far up the East River, and down the Lower Bay. We also find that even in the hottest weather of summer, and when the air in the adjoining streets is disagreeably close, a refreshing sea-breeze can often be enjoyed on the higher levels of Fort Greene.

Owing to the advantages it thus offers of fine prospect and pure air, combined with extended and varied character of surface, the ground suggests a more complete and interesting arrangement of accommodation for popular recreation than can often be attempted in the public squares of large towns; and yet it is altogether too restricted to be properly laid out as a park.

The general treatment which will be likely to give those who frequent the grounds, during the day, the greatest enjoyment, must be of a somewhat rural character; but it is undesirable, with reference to public morals and the general police of the city, that grounds laid out in this way should be left open after dark, or that they should be used for the assemblage of public meetings, the display of fireworks, or for other incidental purposes which bring together large crowds.

Such public needs may be considered in the preparation of the general design, but they must not be confused with the objects

which are to be had in view in the laying out of such portions of the ground as are to possess the character of a garden; for the requirements involved, being essentially dissimilar, can with no greater propriety be incorporated together in a ground intended for popular resort, than can the requirements of a lecture-room and a dormitory be incorporated together in a building which is to be used for educational purposes.

Assuming that there is adequate space for the development of both ideas in this case, our first study has been to establish a division which shall give to each class the site which will be most convenient for it.

For refreshing purity of air and beauty of prospect, the central part of the square is, beyond question, to be preferred. As a place for public assemblages, the lowest ground, in the angle between Myrtle avenue and Canton street, has the advantage of being readily accessible from the more densely populated parts of the city, and offers a sufficiently large area of service that will require but little alteration to make it available.

We accordingly set off, in this quarter, a space of 370 feet in diameter, which will give easy standing room for a mass meeting of thirty thousand persons. The whole of this ground will have a regular slope towards the north end, which furnishes a suitable location for the display of fireworks, and is provided in the center with a "rostrum" for public speakers, to which may be attached, if thought desirable, convenient accommodations for the seating of guests of the city, for bands of music, or for committees.

Although the space is not large enough for the practice of military manœuvres, it will serve for the parade and drill of a regiment, and for a marching review of a division or larger body. It would, on any occasion of necessity, be a convenient and suitable position to place and hold in readiness for service a large or small body of troops.

It has the advantage, for this purpose, of being in the immediate vicinity of the State Arsenal, and between it and the Jail and the City Hall; and as there is no other position in the city which could be thus occupied without interrupting the common use of the streets, such a reservation may eventually prove to be one of importance. The whole space may be brilliantly lighted. There will be no fence or barrier of any kind between it and the streets on either side, and when occupied by public meetings, thousands of persons may pass in and out without confusion or serious disturbance to the main body.

The high ground in the interior of the park, immediately opposite the rostrum, has been the scene of great historical events, and for many years has been used by the citizens of Brooklyn as a place for patriotic demonstrations. The sentiments and purposes which are thus associated with the site should, we think, be respected. We therefore propose to re-establish, in a more fitting manner, at this point, the feature of the "SALUTING GROUND," and have laid out, in connection with it, a road for artillery, 20 feet in width, which will be entered from the gate nearest the arsenal.

Through the liberal action of the Mayor and Common Council, with whom the idea originated, a tomb for the reception of the remains of the "Prison-Ship Martyrs" is included in the design, and we have been very desirous to give full emphasis to this important feature in the arrangement of the general scheme of improvement.

The hill-side between the Saluting Ground and the exterior of the Meeting Ground seems to be the most appropriate position for the erection of the contemplated memorial, and we have, therefore, reserved at this central point a site amply adequate, not only for the structure itself, but for the approaches and other accessories that will require to be connected with a work of this character.

The monument proposed to be placed over the tomb would thus be at a short distance from the Meeting Ground below, and would be inaccessible to those occupying it whenever the park gates were closed; but it would be at all times a conspicuous object, and would be well calculated, in connection with the other circumstances to which we have alluded, to aid in establishing the real solemnity of the duty which meetings ostensibly held for political and patriotic purposes should always have in view.

With the intention of securing to visitors an agreeable walk in the immediate vicinity of the square, when the gates of the enclosure are shut for the night, the adjoining side-walks are proposed to be increased in width to 30 feet, and to be planted with a double row of trees.

Gates are provided at the various angles, and in the center of each side.

Special prominence is given to the angular-approaches, and they are enlarged and symmetrically planted with trees, so that they may present a more agreeable effect to visitors entering the park, and also offer facilities for an easy turn in connection with the exterior side-walks.

The closure of Canton street, between Willoughly street and DeKalb avenue, being now made permanent by a special Act of the

Legislature, one-half of the land that would have been taken up by the street is included within the present boundaries of Washington Park, while the other half belongs to the adjoining owners. The fence, as at present constructed, is carried on a line with the center of Canton street; but this is a very undesirable arrangement, as it entirely spoils the two park entrances that should properly occur at the points where the public thoroughfare is interrupted. Under these circumstances, we have suggested, in our design, a modification of this boundary line which will allow of the introduction of symmetrically planned park gateways where they are needed, and at the same time offer such advantages to the adjoining owners that no objection to the change is likely to be made by them.

A large portion of the boundary fence would require, for constructive reasons, to be in the form of a retaining wall, and it would probably, therefore, be better to use a wall in preference to an iron fence, for the other portion of the work; but this point is not one that requires immediate settlement.

In the enclosed pleasure-ground, broad walks are, in the first place, so laid out that the whole space is thoroughly traversed and turned to account. Lines of communication, tolerably direct, and of easy grade, are at the same time secured for those who may have occasion to cross the park during the day.

The general surface of the ground is very irregular, but it has been thought desirable to arrange for a nearly level lawn, of considerable extent, for boys; and for another lawn, of about the same dimensions, for the use of girls and children.

The undulating ground is intended to be somewhat closely planted, and is proposed to be so laid out that it will offer a series of shady walks that will have an outlook over open grassy spaces at intervals.

On the upper plateau, a site is arranged for a "Vine-covered Walk," of considerable extent, which would offer, in hot weather, a sufficient protection from the rays of the sun, even at noonday. The ground plan of this shelter is in the form of a cross, one arm of which connects with the Saluting Ground, another with a building to be set apart for the sale of refreshments; a third with an "Observatory," of moderate elevation, to be erected on the site indicated on the plan; while the fourth commands the most interesting view over the city that can be obtained within the limits of the property.

The present surface is intended to be so modified that the grades of the walks will be easy and natural over the whole territory.

In the execution of the design, it will probably be found desirable to dispose of some surplus material outside the limits of the square; but the plan is so conceived that all the earth to be moved may be distributed over the surface of the property itself, if this should turn out in practice to be the more economical arrangement.

Respectfully,

OLMSTED, VAUX & CO.,

Landscape Architects.

BROOKLYN, *September 9th*, 1867.

DESIGN FOR LAYING OUT THE GROUNDS KNOWN AS FORT GREEN OR WASHINGTON PARK, IN THE CITY OF BROOKLYN.

States & Koch, 171 Pearl St. cor Pine N.Y.

APPENDIX.

At a meeting of the Commissioners on the 25th day of January, 1868, Mr. A. A. Low submitted the following report on the subject of a sale of Washington Park, which, on his motion, seconded by Mr. Bergen, was ordered to be published in connection with the annual report, as an appendix, expressive of the views of such members of the Board as should sign it.

SPECIAL REPORT.

In the judgment of the undersigned, were the Park Commissioners free to deal with Washington Park according to their own judgment of what the best interest of the city demands, they would return the money raised for the improvement of the park to the City Treasury, stop all expenditures thereon, and initiate measures for a sale of the property by converting it into building lots.

From the maps on file in the office of the Street Commissioner, it appears that within the limits of this park, as at present laid out, there were 435 lots and parts of lots facing upon the streets and avenues that intersected the park, which streets and avenues were ordered to be closed.

It is computed that if the whole plot were judiciously laid out and sold with suitable building covenants, and a satisfactory title given, this property would realize more than a million dollars. If judiciously improved it is safe to assume, at the present cost of building, an expenditure, when the whole track is covered with the average number of buildings, of at least three millions of dollars.

The probable saving to the city may be reckoned thus:

Value of Washington Park if divided into lots and sold	$1,000,000
Cost of contemplated improvement if retained as a public park	200,000
Direct saving	$1,200,000

The interest on this sum would be per annum	$84,000
Tax on value of lots and improvements estimated together at	3,000,000
At three and a half per cent. per annum.....	105,000

If this calculation is correct, there will be a direct gain to the city of one million two hundred thousand dollars, and the public debt for the cost of Prospect Park will be diminished to this extent; while the taxes on property to be improved will in a few years be sufficient to pay the interest on one and a half millions more.

The undersigned believe that in stopping any further outlay, realizing by sale the full value of the grounds for building purposes; and by the taxes on improvements that would speedily follow, the city would be benefited to the extent of nearly three millions of dollars. And the question may very naturally be asked why the city should not thus be benefited, or why the first twelve wards of the city should not be relieved to this extent of the burden which Prospect Park is bringing on a part of the city for the good of the whole?

Three millions and a half of dollars have been already expended for land and improvements, and from present appearances several millions more will be required to carry out the projected plan of improvement.

When Washington Park was laid out in 1848, no part of the cost was assessed for benefit on the surrounding territory, because the improvement was considered a public and not a local one.

The cost apportioned to certain wards, according to a supposed interest in the improvement, has since been liquidated by a general tax on the first twelve and the twentieth wards of the city. In the event of a sale, a like distribution of a sum equal to the principal of the whole cost might be deemed equitable.

Washington Park has ceased to be a public necessity, being wholly superseded as a place of general resort by Prospect Park; and it can never regain its importance, or be of any special value to the community at large. Nor will it be long needed for military exercises, special provision having been made for a parade ground adjoining Prospect Park.

If public money is spent to adorn it, the public treasury will be used for the private advantage, or mainly so, of those who live immediately around it, and who have never been assessed for benefit. But it is asserted by those who live in the neighborhood that the park is not a benefit, but an injury; being the resort of the idle, the dissolute, and the depraved, to the exclusion of respectable citizens.

If further expenditures are incurred and the grounds made more attractive, they will not be sacred to any better uses than hitherto, unless maintained at increased expense by a strong force of police, and thus kept free of vagabonds by day and by night.

The bones of the martyrs of the Revolution may, with much propriety, be transferred to a portion of Prospect Park, which lies near to the Greenwood Cemetery, to some spot within sight of the statue to be erected in honor of the great martyr of our late civil war.

For months past the Park Commissioners have had before them a plan for the improvement of Washington Park, the probable cost of which has been estimated at $200,000. If an iron fence is put around the ground according to the requirements of a recent law of the Legislature, the outlay will much exceed this sum; and the execution of the work has been kept in abeyance, because of a desire of some members of the Board that the sentiments of their fellow-citizens should first be known on the subject. A statement of the foregoing facts and calculations is therefore briefly presented in this report for their consideration.

Brooklyn, January 28, 1868.

A. A. LOW.
T. J. BERGEN.
A. B. BAYLIS.
W. S. GRIFFITH.

REPORT

ACCOMPANYING A DESIGN FOR THE PARADE GROUND.

To the President of the Board of Commissioners of Prospect Park, Brooklyn:

Sir: We herewith present a plan of improvement for the tract of land required to be prepared by your Commission for a parade ground.

The plot contains forty acres; and is situated outside the limits of the park, on the south side of Franklin avenue, and east of the Coney Island plank road. It is quadrangular in general form and is comparatively level, but is sufficiently inclined from the northeast to the southwest for good drainage fall. In respect to general lines of surface, it is therefore well suited for the purpose to which it has been appropriated, and will require comparatively little grading.

On occasions of ceremony it will be generally desirable that the reviewing officer and staff, or personages to be honored, should pass through the park and enter the parade ground from the circular vestibule or ante-park already laid out at its northwest angle. It will be convenient, therefore, that the reviewing point should be directly accessible and in full view from this entrance, and we have arranged the design accordingly. It will then be desirable that the column of troops to be reviewed should enter the parade ground at the side opposite the reviewing point; and an entrance is prepared for this purpose in the design. A column entering from the street by companies, would then form at once into regimental lines, and remain massed on the east side until required to march in review, when it would move in the usual manner along the north side, and return on the south side.

Between the north and south sides there is a space sufficient for these movements, but none to spare; we therefore assume that whenever a street is opened on the south of the parade ground, it will be laid out entirely clear of the property now under control of your Commission.

The reviewing officer would face east and occupy a position from which the whole field could be commanded at a glance, except the comparatively small space in his rear, which is proposed to be reserved for spectators. The boundary of the ground is here irregular; and we have taken advantage of this peculiarity to set apart a site for such outbuildings as will, in all probability, be hereafter needed. As these buildings, marked B on the plan, should not come prominently into notice; and as it is undesirable to retain the present oblique line of the property as the western boundary of an otherwise rectangular field, we have arranged the space required for miscellaneous purposes in such a way that, when viewed from any interior point, the whole will appear a symmetrical quadrangle.

A site for a building of moderate extent is indicated on the extreme west, and marked A on the plan; the first story of which might be partly open, and furnish shelter from sun and rain for a large number of persons; in the second story accommodations could be arranged for the use of officers and invited guests.

As a military parade always has interest for the public, and it is desirable for the sake of the military itself that it should receive attention; it is proper and just that some special provision should be made for the convenience of spectators, so that without pushing or crowding for front places, or any disorder which would destroy their pleasure, a large concourse of persons may overlook the field. We therefore propose to appropriate a stretch of ground immediately in the rear of the position indicated for the reviewing officer, and marked CC on the plan, for the use of visitors; and to give its eastern face a gradual upward slope, so that it may offer to all who occupy it a good chance to see whatever may be going on; and as the parade ground itself will fall slightly towards this artificial bank, the advantages to be gained by this arrangement will be correspondingly increased.

A large graveled area is shown on the plan at the west side, connected by roads on the north and south sides with a smaller graveled space on the east; the greater portion of the parade ground being included in one rectangular central plot of greensward.

It is not proposed to reduce the ground available for military exercises by planting; but a belt of trees is indicated on the west

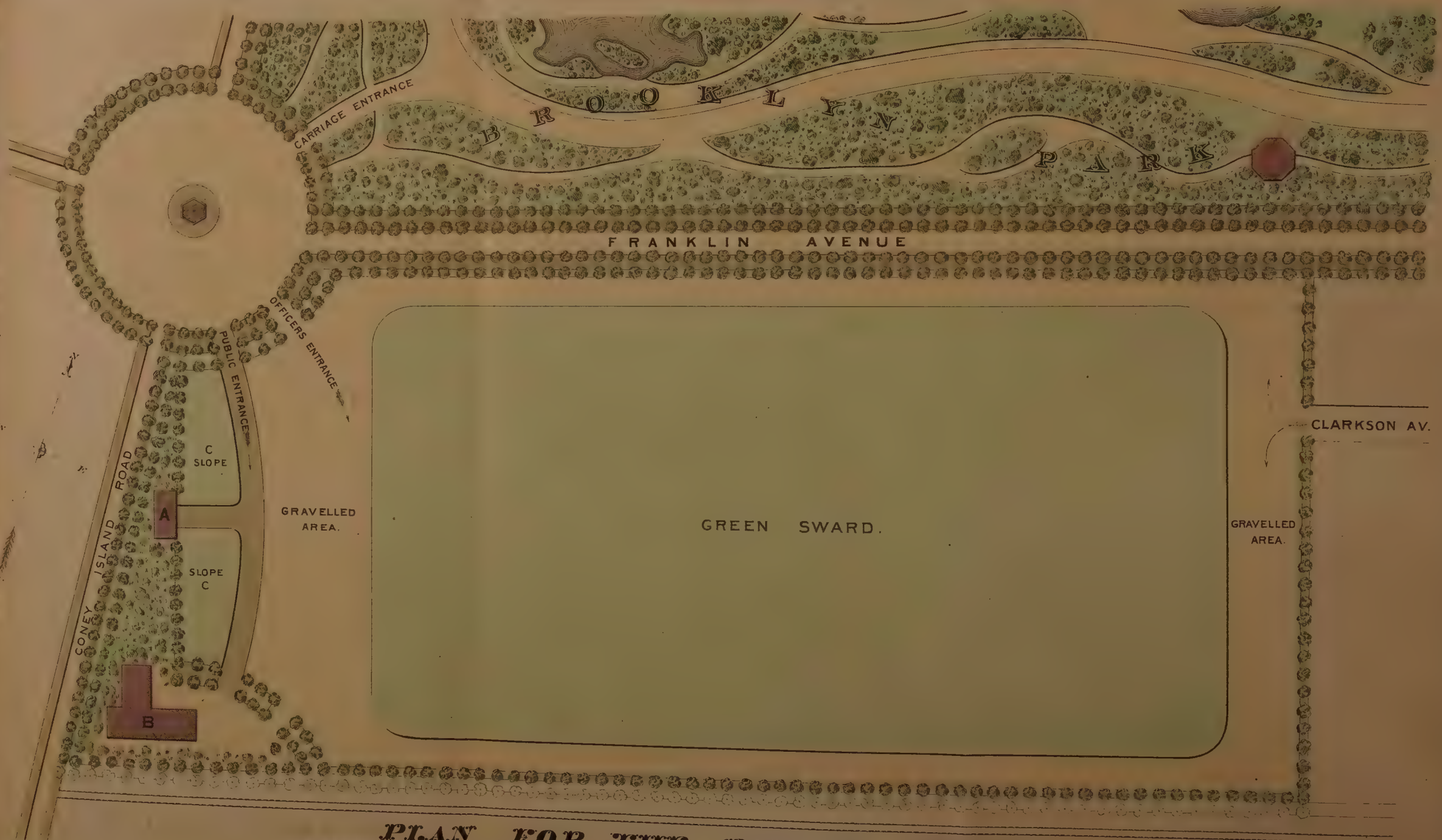
and southwest border of the space to be occupied by visitors, for the purpose of offering protection from the afternoon sun. A continuous line of the American elm is also proposed to be set out inside the boundary fence that encloses the property—this tree being preferred because the natural angle of its branches adapts it to a situation where abundant clear space is wanted below the foliage.

The plan we have thus presented is intended to be sufficiently comprehensive in its character to include all the more important requirements that naturally appertain to a parade ground; but in accordance with our instructions, the design is so arranged that it can be carried out in several successive stages.

Respectfully,

OLMSTED, VAUX & CO.,

Landscape Architects.



PLAN FOR THE PARADE GROUND
PROPOSED TO BE LAID OUT FOR KINGS COUNTY L.I.

Stiles & Koch, 171 Pearl St. cor Pine N.Y.

AN ACT

To provide for the improvement and maintenance of the Public Parks of the City of Brooklyn. Passed May 1st, 1868.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. The Commissioners of Prospect Park, in the city of Brooklyn, shall have full and exclusive power to lay out, regulate, improve and maintain, the Public Parks of the city of Brooklyn, and to govern, manage and direct the same, and the public use thereof; to make ordinances, rules, and regulations for their proper management and government; to appoint such engineers, surveyors, clerks and other officers, and such police force as they may deem expedient, and to prescribe and define their respective duties and authority; to fix and regulate the compensation to be paid to the several persons so to be employed by them; to open, widen, and grade the northerly side of Ninth avenue, between Montgomery and Union street, and so much of Fifteenth street as was extended to meet the Coney Island road, and laid down on the city map, by an act entitled "An act to extend the boundaries of Prospect Park, in the city of Brooklyn," passed April 30th, 1866; to locate, erect and maintain fountains on the said parks, or either of them, as well as upon the streets and avenues, which form the boundaries thereof, or intersect the same; to erect and maintain iron and other fences, around the said parks; to flag and reflag the side-walks of said streets, roads or avenues, on the side which is adjacent to the said parks, to increase the width thereof, and to set and reset curb and gutter stones, shade trees and lamp posts thereon; and to determine the particular location of any railroad track which is now or may be hereafter placed upon such road, street or avenue.

They may also, in the name of the city, or of the said Board of Commissioners, at their option, bring any action which they may deem proper, to recover damages for the breach of any agreement, express or implied, relating to or growing out of the management or improvement of the said parks; for penalties for the violation of any ordinance; or for injuries to personal or real property appertaining to the said parks; or to recover the possession of any such property.

The land taken (and set apart for a Parade Ground for the county of Kings), shall be the property of said county, as and for a parade ground; and shall be under the exclusive charge and management of the Commissioners of Prospect Park, in the city of Brooklyn, for the purposes of police and improvement as such parade ground.—*An Act to provide a Parade Ground for the county of Kings, passed April* 27, 1868. Sec. 7.

The several pieces and parcels of ground, parks and squares in the city of Brooklyn, and the sidewalks, fences and trees adjacent thereto and being between any part of the same, and any public street or avenue hereinafter mentioned, shall hereafter be under the care, management and control of the Commissioners of Prospect Park, as fully and completely as Prospect Park is or may hereafter be under their control, care and management.—*An Act in relation to Parks in the City of Brooklyn, passed May 9th*, 1867. Sec. 1.

The parks and squares aforesaid are Washington Park, City Park, City Hall Park and Carrol Park.—*Same Act.* Sect. 2. Tompkins' Park was included by Act of May 2d, 1870.

The joint board of Aldermen and Supervisors of the City of Brooklyn shall annually cause to be levied and raised the requisite amount of moneys for carrying this act into effect, and for the purposes thereof; and such money shall be promptly and regularly paid over to the said Park Commissioners for said purposes.—*Act of* 1868. Sec. 5.

The Brooklyn Park Commissioners are hereby authorized to seize and impound any cattle, sheep, swine, goats, horses, geese, or other animals found running at large upon any of the public parks in the city of Brooklyn; to impose a penalty of not exceeding five dollars, with reasonable expenses, upon each animal so seized; and to enforce payment thereof in such manner as they shall by ordinance direct.—*Act of May 6th*, 1868.

§ 2. Whenever the Board of Commissioners shall by resolution direct the streets or avenues specified in the preceding section of this act to be opened or widened, they shall fix a district assessment beyond which the assessment for such opening or widening shall not extend. They shall then apply to the Supreme Court, at a special term thereof, to be held in the second judicial district, upon a notice to be published for ten days successively in the corporation newspapers, for the appointment of three Commissioners to estimate the expense thereof, and the amount of damages to be sustained by the owners of property, or other persons to be affected thereby, and to apportion and assess the same as hereinafter described, and the court shall thereupon proceed to make such appointment.

§ 3. The Commissioners so to be appointed shall, after having been duly sworn, proceed to estimate such expenses and damages; and after their report thereon shall have been confirmed by the said court, they shall apportion and assess the same, upon the lands and premises benefited by the said improvements within the district of assessment, to be fixed by the Park Commissioners, in the same manner as the Board of Assessors of the said city are by law directed to make similar assessments. And all laws now in force relative to

the opening and widening of streets or avenues in the city of Brooklyn, subsequent to the appointment of Commissioners of Estimate, and the proceedings thereon, and the duties of the several persons to be employed therein, substituting the said Park Commissioners in place of the Common Council and Street Commissioner of said City, and substituting also the Commissioners of Estimate and Assessment in place of the Board of Assessors of the said city, and including the levy and collection of the assessments for such improvements and the lien thereof, so far as they are not inconsistent with the provisions of this act, shall apply to and regulate all duties arising out of, or proceedings that may be had or taken under this act. But such proceedings shall continue to be under the direction of the said Park Commissioners, who shall act when required as the Common Council and Street Commissioner of said city would be required to act in relation thereto, and who shall employ an attorney and counsel, and all such surveyors, clerk, appraisers, and other agents as may be required for the purpose of the said proceedings.

§ 4. The Commissioners of Prospect Park now in office shall continue to hold office for four years after the expiration of their present term of office, and until others are appointed in their places, and from and after the passage of this act, the Mayor of Brooklyn shall be ex-officio a Commissioner of Prospect Park. They shall together constitute a Board of Commissioners to be hereafter known as "The Brooklyn Park Commissioners," a majority of whom, for the time being, shall constitute a quorum for the transaction of business. If any of the said Commissioners shall not reside in the city of Brooklyn, or shall neglect to attend the meetings of the board, for three monthly meetings, consecutively, after having been duly notified of the time and place of meeting, his office shall be deemed to have been vacated; and after the present number of Commissioners shall, for any reason, have been reduced to eight, each succeeding vacancy shall be filled for the residue of the term then vacant, by a majority of the ballots of the remaining members of the board; and upon such ballotings it shall be no objection to a candidate that he has once been a member of the board.

§ 5. The said board shall, in the month of January, of every year, make and render to the Common Council of said city a full report of their proceedings during the preceding year, with a detailed statement of their receipts and expenditures. And all ordinances or rules which they shall at any time adopt for the regulation, use and management of the said parks, shall immediately thereafter be published for at least ten days, in two daily newspapers printed in said city. No member of the said board shall receive any compensation for his services; and it shall be a misdemeanor, punishable by fine and imprisonment, for any Commissioner to be in any way, directly or indirectly, interested in any contract for services to be rendered, or materials to be furnished for or on account of the said parks, or either of them.

§ 6. For the purpose of providing the means of laying out, constructing and improving Prospect Park, the Mayor, Comptroller, and City Clerk of the said city are hereby authorized and required to

create and issue, at such times and in such amounts as the said Commissioners shall, by resolution, direct, the bonds of the said city, payable within fifty years from the date thereof, and bearing an interest not exceeding seven per cent. per annum, payable semi-annually. The bonds so to be issued shall not exceed three millions of dollars in amount, including the bonds already issued for such purposes; and shall be sold by or under the direction of the said Comptroller, at not less than par, either at public or private sale; and the moneys to arise therefrom shall be called the Brooklyn Park Improvement Fund. All bonds heretofore issued for the improvement of Prospect Park shall constitute a portion of the same fund; and all the provisions of the act passed May second, eighteen hundred and sixty-one, entitled "An act to lay out a public park and parade ground for the city of Brooklyn, and to alter the Commissioners' map of the city, passed April seventeenth, eighteen hundred and sixty-one," which relate to the redemption and payment of bonds issued and to be issued for the payment of awards, and improvements, and the creation and management of a sinking fund applicable thereto, shall apply to and regulate all bonds that may be issued for the purposes of the said Improvement Fund; and for the payment of all such bonds, issued and to be issued, with the interest to accrue thereon, all lands within the boundaries of the said park are hereby specifically pledged.

§ 7. In case the said Commissioners shall at any time require money for immediate use before it can be realized by a sale of bonds, the said Comptroller, on the request of the said Commissioners, may pledge such bonds for a temporary loan of money thereon. All money to be realized from sales or pledges of bonds shall be immediately deposited with the Treasurer of the said city, to the credit of the said improvement fund; and shall be held and used for the construction, improvement and maintenance of the said park, and the adornment thereof. The said Board of Commissioners, through their President and Secretary, shall from time to time make drafts upon the said Comptroller for such amounts as may be required for the prosecution of the park business, after the same shall have been authorized by the Board; each of such drafts shall specify the object for which it is drawn, and the Treasurer shall pay the same on the order of the Comptroller, countersigned by the Mayor and City Clerk.

§ 8. In order to provide for the maintenance and general improvement of said parks there shall be added to the general tax to be levied in said city, in each and every year, such sum of money, not exceeding one hundred and twenty-five thousand dollars (*as amended by Act of* 14*th of May*, 1872) in any one year, as the said Board of Commissioners shall from time to time, by resolution, determine to be necessary for the proper maintenance, improvement and ornamentation of the said parks. The joint Board of Supervisors and Common Council of the city of Brooklyn shall annually cause the amount so determined by the said Commissioners to be raised and levied in like manner as other taxes are raised and levied in said city, and the same shall be promptly paid over to the said Park Commissioners for the purposes aforesaid.

§ 9. Real or personal property may be granted, conveyed, devised or bequeathed to the said city, for the improvement or ornamentation of the said parks, or either of them; or for the establishment or maintenance within their limits of museums, zoological or other gardens, collections of natural history, observatories or works of art, upon such terms and conditions as may be agreed upon by and between the grantors or donors thereof and the said Board of Commissioners. But all property so to be granted, conveyed, devised or bequeathed, and the rents, issues and profits thereof, must be subject to the management and control of the said Board; and may be improved and added to in its discretion; and shall be protected, preserved and arranged by the said Board for public use and enjoyment, under such rules and regulations as the said Board shall from time to time prescribe. Admissions to said gardens and museums may be either free to the public, or upon the payment of such sums of money as the Board may determine; and all income to be derived from such admissions shall be applied to the improvement and maintenance of such gardens and museums, or of the said parks. The Board may also agree for the management or maintenance of any of the said gardens or other institutions with any society, incorporated or to be incorporated under any law of this State; but such gardens or other institutions shall always remain subject to the control of the said Park Commissioners.

§ 10. This act shall take effect immediately.

AN ACT

For the further Extension of Prospect Park in the City of Brooklyn. Passed April 24th, 1868.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. The Commissioners of Prospect Park in the city of Brooklyn are hereby authorized, for and in behalf of the said city, to acquire title to all those certain lots, pieces or parcels of land in said city, which taken together are described as follows: Beginning at the easterly corner of Ninth avenue and Third street, and running thence southwesterly along Ninth avenue to a point between Fourteenth and Fifteenth street, which is upon the circumference of a circle of one hundred and fifty-four feet radius, of which the center is at the intersection of the middle line of Ninth avenue with the middle line of Fifteenth street; thence westerly and again easterly following said circumference for more than three-fourths of said circle, to its insersection with the northeasterly side of Fifteenth street, thence southeasterly along said northeasterly side of Fifteenth street to the easterly corner of Tenth avenue and Fifteenth street; thence northeasterly along Tenth avenue and also along said park to the northeasterly side of Third street; and thence northwesterly along said street to Ninth avenue at the place of beginning.

§ 2. The lands described in the last preceding section of this act are hereby declared to be a public place, and shall be deemed to have been taken by the city of Brooklyn, and to have been opened for public use as an additional part of Prospect Park; and from and after the passage of this act the said lands shall be laid down on the Commissioners' map of the said city, as if the same had been originally laid down upon said map, and had been taken and declared open as a park pursuant to the provisions of an act entitled "An act to revise and amend the several acts relating to the city of Brooklyn," passed April fourth, eighteen hundred and fifty. And all streets, avenues and highways intersecting the said lands or any part thereof, except Ninth avenue and Fifteenth street, are hereby closed and discontinued, and are stricken from the said city map so far as they run through or intersect the said lands.

§ 3. The said Commissioners may apply to the Supreme Court in the second judicial district at any special term thereof, upon a notice to be published ten days successively in two newspapers printed in the city of Brooklyn, for the appointment of five Commissioners of Estimate and Assessment for the purposes of this act; and the court shall thereupon proceed to their appointment as directed by an act passed May second, eighteen hundred and sixty-one, entitled "An act to amend an act to lay out a public park and parade ground for the city of Brooklyn, and to alter the Commissioners' map of said city," passed April seventeenth, eighteen hundred and sixty.

§ 4. The Commissioners so to be appointed shall estimate the value of the lands and premises taken by this act, and the loss and damage to be sustained by the owners or other persons interested therein in consequence of their relinquishing the same to the city. And after their report thereon shall have been confirmed by the said court, they shall apportion and assess not exceeding fifty per cent. thereof, together with not exceeding fifty per cent. of the whole amount of the awards and expenses heretofore reported to and confirmed by the said court, for all lands heretofore taken and now constituting Prospect Park, upon any lands outside of the said park which they shall deem to be benefited by the opening of the said park, in proportion to such benefit. But the land so to be assessed shall include all lands on the east side of Flatbush avenue taken for the said park. And the several amounts awarded or to be awarded to the city upon the widening of streets and avenues adjacent to said park, for lands taken from said park before making such apportionment, together with the cost of the land so taken east of Flatbush avenue, shall be deducted from the whole amount of awards and expenses above referred to before making the said apportionment. No error, irregularity or want of power in regard to any portion of said apportionment and assessment shall invalidate the residue thereof. Of the amount thus to be apportioned only the one-twentieth part shall be annually assessed in each and every year, commencing with the year 1873, for twenty successive years, and be a lien from the time of such annual assessments upon the lands respectively charged therewith, together with interest from the time of the confirmation of the report on assessment, to be computed from year to year, upon the respective amounts remaining unpaid at the time of making such annual assessment; which interest shall be added to said assessment and form part thereof. And the said assessment and interest shall be annually included in the taxes to be levied upon the lands so to be assessed, and shall be levied and collected in the same manner as other taxes upon real estate annually for twenty successive years. The proceeds of such collections shall, immediately after their receipt, be paid over to the Commissioners of the Sinking Fund in the city of Brooklyn, to be applied to the redemption of all city bonds issued or to be issued for the payment of the purchase and improvement of lands taken for said park. But any person interested in the said lands, or any of them, may at any

time pay to the said Commissioners of the Sinking Fund the amount so to be assessed thereon, with interest to the time of payment; and thereupon his said lands shall be discharged from the said assessment.—*As amended by Act of May 14th*, 1872.

§ 5. The Commissioners of Estimate and Assessment heretofore appointed in pursuance of an act entitled "An act to extend the boundaries of Prospect Park in the city of Brooklyn," passed April thirtieth, eighteen hundred and sixty-six, are hereby discharged from the performance of all further duties under that act; and all services, acts and duties which are thereby directed to be done and performed by the said Commissioners, and which remain unperformed by them in relation to assessments for benefit or otherwise, are hereby devolved upon, and shall be performed (reference being had to the principles of assessment indicated in the last preceding section of this act) by the Commissioners who are to be appointed under this act. The expenses, fees and compensation which the said Commissioners, and other persons employed under that act, may be entitled to receive thereupon shall be added to and paid as part of the general expenses incurred and to be incurred for the opening of the said park; and the Comptroller and Treasurer of the said city are hereby directed to pay the same, after they shall have been adjusted and taxed, in the manner directed by the said last mentioned act, and after the same shall have been duly certified by the counsel of the Park Commissioners. And for the purpose of making such payments, so many and such an amount of additional park bonds as may be necessary may be issued and sold by the said city authorities.

§ 6. The Commissioners of Estimate and Assessment who are to be appointed under this act shall, except so far as otherwise directed by this act, have the same powers, discharge the same duties, and be entitled to the same compensation, that are conferred by, or imposed upon, or allowed to, the Commissioners referred to in the act specified in the last preceding section of this act. But the Board of Commissioners of Prospect Park shall employ an attorney, clerk, appraisers and surveyor for the purposes of this act, whose compensation shall be included in the general expenses to be incurred under this act. And the awards for lands taken under this act shall be payable upon the certificate of the counsel of the said board.

§ 7. The payment of all damages to be awarded, as well as the general expenses to be incurred in pursuance of this act, shall become due and payable immediately after the confirmation of the said Commissioners' reports thereon; but no expenses or compensation to persons who are to be employed under this act shall be allowed or paid, unless the same shall have been first duly taxed and certified as directed in the fifth section of this act. For the payment of the said awards and expenses, the bonds of the city shall, from time to time, be issued and sold in the manner directed by the act entitled "An act to extend the boundaries of Prospect Park, in the city of Brooklyn," passed April 30th, 1866. Such bonds shall bear a similar interest, and be paid in the same manner, and within a like period, as the bonds referred to in that act; and for the redemption

thereof, the lands described in the first section of this act are hereby specifically pledged.

§ 8. The title to the lands described in the first section of this act shall, immediately after the confirmation of the said Commissioners' report upon valuation, vest forever, in fee simple, absolute, in the city of Brooklyn. And the said lands shall thenceforth form a part of Prospect Park, and be under the exclusive management and control of the Board of Commissioners of Prospect Park, in the same manner and to the same extent as the other portions of the said park now are, or may at any time be, under the management and control of the said board.

§ 9. All the provisions of the several acts referred to in the third and fifth sections of this act, and of any act amendatory thereof, relating to the issue, use and sale of bonds, and the redemption and payment thereof, with the interest to accrue thereon, as well as in relation to the taking and paying for the lands and premises referred to in this act; and the duties, powers and authority of the Board of Commissioners of Prospect Park, as well as of the said Commissioners of Estimate and Assessment, and their appointment and proceedings, including the confirmation of their reports by the Supreme Court, which are not incompatible with the provisions of this act, shall apply to and regulate all bonds that may be issued, and all acts, proceedings, powers and authority that may be had, taken or exercised under or by virtue of this act.

§ 10. This act shall take effect immediately.

AN ACT

To open and widen portions of Sackett, Douglass and President streets, and otherwise alter the Commissioners' Map of the City of Brooklyn. Passed May 6th, 1868.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Sackett street, in the city of Brooklyn, is hereby widened from Washington avenue easterly to the southerly limit or boundary line of the said city, to the width of two hundred and ten feet, and shall be opened to that width by adding seventy feet in width to each side of the said street, as now laid down on the Commissioners' map of the said city. And President street and Douglass street are hereby also widened from New York avenue easterly to the said city line, to the width of one hundred feet; and shall be opened to that width by adding fifteen feet in width to each side of the said several streets, as now laid down on the said map.

§ 2. So much of Degraw street as lies easterly from New York avenue, and extends to the said city limits, is hereby narrowed to the width of thirty-five feet, by taking away thirty-five feet in width on the southerly side thereof; and so much of Union street as lies easterly from the said avenue, and extends to said city limits, is hereby also narrowed to the width of thirty-five feet by taking away thirty-five feet in width from the northerly side thereof; which said southerly side of Degraw street, and northerly side of Union street, are hereby abandoned for street purposes, and shall be stricken from the said city map.

§ 3. No buildings or other erections, except porches, piazzas, fences, fountains, and statuary, shall remain or be at any time placed upon any of the lots, fronting upon either of the said streets so to be widened, within thirty feet from the line or sides of the said several streets respectively. The intervening spaces of land on each side of the said several streets shall be used for court yards only, and may be planted with trees and shrubbery, and otherwise ornamented, at the discretion of the respective owners or occupants thereof. And no building now standing, or that may be hereafter erected, on any lot fronting or to front, on either Union or Degraw streets so narrowed, shall ever be used for any purpose other than a stable, carriage house, conservatory for plants, or green house; but no livery or railway stable, or car house, shall at any time be erected, or maintained, upon any of the said lots. And at no time shall there be erected, established or carried on, in any manner whatever, upon any land to be affected by the said widenings, or either of them, any slaughter house, tallow chandlery, furnace, foundry, nail or other factory, or any manufactory for making starch, glue, varnish, vitriol, oil, or gas, or for tanning, dressing, repairing or keeping skins, hides or leather, or any distillery,

brewery, or sugar bakery, lime kiln, railway or other stable, or depot, or any other manufactory, trade, business or calling, which may be in any wise dangerous, noxious or offensive to the neighboring inhabitants.

§ 4. The Commissioners of Prospect Park are hereby directed to take proceedings, within sixty days after the passage of this act, to open, grade, and otherwise improve the said several streets, described in the first and second sections of this act. And for the purpose of determining the amount to be paid to the owners of the lands and tenements required to be taken for the purposes of the several changes and improvements contemplated by this act, the said Park Commissioners shall cause application to be made to the Supreme Court, in the Second Judicial District, at a special term thereof, upon a notice to be personally served upon the counsel of the said city, and to be also published ten days, successively, in the corporation newspapers, for the appointment of three Commissioners to estimate the expense of such widenings and openings, and the amount of damages to be sustained by the owners of land, and all other persons to be affected thereby, and to apportion and assess the same, as hereinafter directed, and the court shall thereupon proceed to make such appointment.

§ 5. Before any assessment for such widening or opening is made, the Commissioners of Prospect Park shall, by resolution, fix a district of assessment, beyond which the assessment therefor shall not extend.

§ 6. The Commissioners so to be appointed by the court shall, after having been duly sworn, proceed to estimate such expenses and damages; and in making the estimate, they shall include the damages, if any, to be sustained by any person or persons, for being so obliged to build back from the line or sides of any of the said several streets, or for being restricted in the use of the lots fronting on said streets, as specified in the third section of this act; and after their report thereon shall have been confirmed by the said court, they shall apportion and assess the amount thereof in such manner as they shall deem just and equitable, upon the lands and premises in their judgment benefited by the improvement, within the district of assessment so to be limited by the said Park Commissioners.

§ 7. All laws now in force relative to widening, opening and improving streets and avenues in the city of Brooklyn, subsequent to the appointment of Commissioners of Estimate, and the proceedings thereon, and the duties of the several persons to be employed therein, substituting the Commissioners of Prospect Park in the place of the Common Council, and also in the place of the Street Commissioner of said city, and substituting the said Commissioners of Estimate and Assessment in place of the Board of Assessors of said city, so far as relates to the opening of streets and avenues, including also payment for the work, and the levy and collection of the assessments for such improvements, and the lien thereof, so far as they are not inconsistent with the provisions of this act, shall apply to and regulate all proceedings that may be had or taken under this act. But such proceedings shall continue to be under the direction of the

Commissioners of Prospect Park, who shall stand in the place of, and act when required as, the Common Council of the city or the Street Commissioner thereof, would be required to act in the premises; and they shall employ an attorney and counsel, and all such clerks, surveyors, and other agents as may be required for the purposes of this act.

§ 8. The said Commissioners of Estimate and Assessment shall be allowed to make use of any maps on file in any of the public offices of the said city, and shall each receive five dollars a day for every day actually spent in the discharge of his duty. Which expenses and compensation, together with the room hire, stationery, and other necessary expenses of the said Commissioners, as well as the expenses and compensation of all other persons necessarily employed under the foregoing provisions of this act, shall be included in the general expenses to be incurred herein.

§ 9. Sackett, Douglass and Degraw streets shall be laid out according to a plan to be devised or adopted by the said Park Commissioners, and shall also be graded, paved, curbed and guttered in such manner as they shall direct; and may be re-named, and planted with suitable shade trees, or otherwise improved in their discretion. And the said Commissioners may construct such roads and walks thereon, and make use of such pavements and materials of construction therefor as they shall deem best.—*As amended by act of* 14*th May*, 1872.

§ 10. All expenses incident to the improvements specified in the last preceding section of this act, after having been duly certified by the said Park Commissioners to the said Commissioners of Estimate and Assessment, shall be by the said last mentioned Commissioners apportioned and assessed, in such manner as they shall deem just and equitable, upon property to be, in their judgment, benefited thereby; but such assessment shall be laid within a district of assessment to be fixed by a resolution of the said Park Commissioners. Such assessments shall constitute liens upon the several parcels of property to be charged therewith, and shall be assessed, levied, and collected, with interest, from the confirmation of the report of the said Commissioners, of Assessment thereupon, in the same manner as other local assessments are levied and collected in said city; provided, however, and it is hereby directed, that one tenth part of said assessments shall be levied and collected annually for ten successive years after the confirmation of the said report.—*As amended by act of* 14*th May*, 1872.

§ 11. After Sackett street shall have been opened, so much thereof as lies eastward of Prospect Park shall be under the exclusive control and management of the said Park Commissioners, and they shall make and enforce proper rules and regulations for the public use thereof. And after it shall have been improved as hereinbefore directed, its subsequent maintenance shall be provided for in the same manner as the public parks now under the charge of the Park Commissioners are provided for.

§ 12. This act shall take effect immediately.

NETHERMEAD ARCHES.

NINTH ANNUAL REPORT

OF THE

COMMISSIONERS OF PROSPECT PARK.

JANUARY, 1869.

COMMISSIONERS.

JAMES S. T. STRANAHAN,
WALTER S. GRIFFITH,
JOHN H. PRENTICE,
EDWARDS W. FISKE,
WILLIAM MARSHALL,
ABIEL A. LOW,
SEYMOUR L. HUSTED
ABRAHAM B. BAYLIS,
STEPHEN HAYNES,
ISAAC VAN ANDEN,
MARTIN KALBFLEISCH.

PRESIDENT.

JAMES S. T. STRANAHAN.

SECRETARY.

WALTER S. GRIFFITH.

COMPTROLLER AND COUNSEL.

JOHN N. TAYLOR.

LANDSCAPE ARCHITECTS AND SUPERINTENDENTS.

OLMSTED, VAUX & CO.

ASSISTANT ARCHITECT.

EDWARD C. MILLER.

ENGINEER IN CHARGE.

CHARLES C. MARTIN.

ASSISTANT ENGINEERS IN CHARGE.

JOHN BOGART, JOHN Y. CULYER.

NINTH ANNUAL REPORT

OF THE

COMMISSIONERS OF PROSPECT PARK.

To the Honorable the Mayor and Common Council of the City of Brooklyn:

The Brooklyn Park Commissioners, in conformity to the requirements of the law which appointed them to office, and which prescribes and regulates their duties, herewith present to the honorable the Mayor and Common Council of the city a report of their proceedings for the year 1868, together with a statement of their receipts and expenditures during the same period.

Since the last annual report, the Commission, with its official staff, has remained essentially unchanged, except that Messrs. William Marshall and Isaac Van Anden have been appointed Commissioners, to supply vacancies which have occurred in the Board—the latter to occupy the place made vacant by the death of our late associate, Cornelius J. Sprague, Esq. By the decease of this gentleman, park enterprise has lost one of its earliest and firmest advocates, and the city a faithful guardian of its interests. A wise Providence had previously deprived us of the valuable services of Dr. Richard L. Thompson, a former secretary of the Board, and of Ex-Mayor Thomas G. Talmadge, a zealous coadjutor in many a plan of city improvement; so that there now remain but three members of the Board of Commissioners who were originally selected to organize and carry forward the important work in which we are engaged. By a recent act of the Legislature, also, the Mayor of the city, as a suitable representative of the city's interest in

the operations of the Board, was made *ex-officio* a Park Commissioner, and we have now, therefore, the honor of inscribing his name upon the roll of our members.

A copy of the act referred to is annexed to this report, and will be found to contain some provisions of interest to our taxpayers, particularly that portion of it which distributes the current expenses of maintaining the parks, after construction, over the whole city, without confining the burden, as was originally intended, to the western district. The substantial justice of this provision was apparent after the passage of the law which put all the parks of the city under one general management; and was the more obvious, when it came to be seen that the interest taken in our parks, and the benefits to be derived from them, are not confined to any particular locality, but that all participate in their advantages, and feel an equal pride in the successful development of their several plans of improvement.

The Commissioners were authorized by this law to call upon the joint Board of Common Council and Supervisors for such an amount, not exceeding one hundred thousand dollars in any one year, as they should, by resolution, determine to be necessary for the support and proper maintenance of the parks: and that amount, so determined, is directed to be levied in the same manner as other taxes are levied in our city. We have not deemed it necessary to require more than sixty-eight thousand four hundred dollars to be raised for the coming year; but it is probable that, as the work draws to completion, the amount required for this purpose will at no time be much less than the full sum authorized to be expended. The subject of defraying these expenses will necessarily engage the attention of the Commissioners as the work passes on from construction to maintenance; and they will endeavor, from time to time, to develop such sources of revenue as may be found incidental to the parks themselves. Licenses for the sale of mineral waters and other refreshments; for light and convenient carriages to run upon the drives for hire; for invalid chairs on the walks, boats on the lakes, and the like, may all be made conducive to the interest of the city, by relieving it of a portion of the cost of maintenance, without infringing to any extent upon the privileges of the public in the use of the parks.

The same act embraces a revision of the powers and duties of the Commission, which are extended, in some respects, beyond the scope of the original law under which they have heretofore acted, and, in connection with the other act just referred to, has much increased their duties and responsibilities. Among other things, it confers upon the Board authority to perfect the boundaries of Prospect Park along the Ninth avenue, which had an unsightly extension jutting out into the avenue opposite the park, near the main entrance; and also along Fifteenth street, which was laid down in a curve line, to correspond with the park boundary, until it reached the Coney Island road, and which required adjustment. These two operations seemed necessarily connected with the improvement of this park; and the Board was, therefore, directed to institute the legal proceedings required for their accomplishment. The Commissioners of Estimate and Assessment, who were appointed by the court for the purpose, have completed their task to the satisfaction of the Board, at a very moderate cost to the parties interested.

The Commissioners regret to say that the bill which was introduced into the Legislature last Spring, for the laying out of streets and avenues throughout the county of Kings, beyond the city of Brooklyn, failed to become a law. Their views on this important subject,—the advantages municipal, financial, and sanitary of properly adjusting and connecting the streets and avenues of this rapidly growing suburb of the city with our own thoroughfares, and the great inconvenience, loss, and confusion which must arise from a neglect of this work,—were stated in a former report, and need not here be repeated. They take this occasion, however, to add, that the evils of delay are becoming every day more apparent, in consequence of the large amount of property in the country towns which is being mapped out into city lots, and sold for purposes of improvement. Every proprietor who brings his lots into market, and cuts up his farm for sale, seems to lay out his streets and avenues, and arrange his property according to his own fancy or supposed advantage, without reference to the public convenience, and without knowing, in fact, what the public requirements really are. The Board has always, even at the risk of sometimes appearing to step beyond the exact line of its duty, been solicitous to point

out difficulties arising from the loss of valuable improvements, which are too frequently destroyed in the progress of subsequent advances of the city, and which a more prudent foresight might easily have prevented. The Board can do nothing further at this time than to call the attention of the parties more immediately interested to the subject, and to express the hope that it will receive from the Legislature that decided action which its importance manifestly demands.

The propriety, if not the absolute necessity, of an extension of Prospect Park at its western angle, so as to allow the principal drive in that direction to be carried out according to the original design, has been repeatedly urged in former reports of the board, and the Legislature was, on more than one occasion, applied to for permission to make the desired acquisition; but without success. The Commissioners have now, however, the pleasure of stating that an act was passed at the last session authorizing this extension, and directing the board to apply to the Supreme Court for the appointment of Commissioners to estimate the value of the land so taken. Messrs. Teunis G. Bergen, Henry W. Slocum, Crawford C. Smith, Henry C. Murphy, Jr., and Edwin K. Scranton, well known citizens of Brooklyn, were selected by the court to perform this duty; and it is understood that their report is nearly ready for publication. The land in question consists of twelve blocks of ground, lying between Ninth and Tenth avenues, and Third and Fifteenth streets, and might, when its annexation was first suggested by the board, have been obtained for a comparatively small price. Its present value, however, has been much increased during the last two years from various causes, especially by its vicinity to the park, and its acquisition must now necessarily be somewhat costly to the city, but the board indulge the hope that the forthcoming report of the Commissioners will be of such a character as to justify the board in asking the court to ratify and confirm the same. When these proceedings shall have been completed, Prospect Park will extend over the whole area embraced within its original design, and any further extension of its boundaries would, in the judgment of the Commissioners, not only tend to mar the symmetry of its present fine proportions, but would entail an unnecessary expense upon our already heavily-burdened city. When the

future wants of our teeming population shall require more extended park accommodations, as no doubt they will, the Commissioners believe the public convenience will be better served by opening other parks in different and more remote sections of the city, than by adding to the present ample dimensions of Prospect Park.

In this connection, the Commissioners would add, that the question of the best disposition to be made of the land lying east of Flatbush avenue still remains undetermined. Subsequent reflection, aided by suggestions contained in the more recent study which has been given to the subject by our landscape architects (their report thereon being hereto appended) has confirmed the opinion expressed by them three years since, when the present board first took up the consideration of the subject, that the division of the park by the broad thoroughfare which connects the city with the large agricultural country beyond it would seriously interfere with those impressions of amplitude and continuous extent which are necessary to landscape effect; and that this objection cannot be obviated by any reasonable amount of bridging which could be introduced for the purpose of connecting the two portions together. The reservoir grounds also encroach so largely upon the eastern section, that they, in effect, subdivide its two parts into very insignificant dimensions for park purposes. The formation of the ground, moreover, as was suggested in a former report of our landscape architects on the subject, is of a character that renders its improvement very expensive; and when the best thing possible shall have been done, it must always present a cramped, confined and unsatisfactory appearance. In addition to this, the full development of the great Southeastern parkway through the heart of the Ninth Ward, which is now in the hands of Commissioners of Estimate and Assessment, and about to be opened up to the public, will require this splendid improvement to be carried through to the plaza east of the reservoir, and will still further lessen the capabilities of this portion of the park.

The reservoir hill, with its magnificent prospect, will always form one of the most attractive features of this charming locality, and should, in connection with general park improvement, aided by a light foot bridge thrown across the avenue, be

embellished in the highest style of art. The land north and south of this hill, running along the avenue to the depth of perhaps two hundred and sixty feet, embracing in the whole an extent of about twenty-five acres, can be retained by the city, and used to good advantage for various municipal purposes; but we believe the time is not far distant when a generous public sentiment will require that considerable portions of this land shall be devoted to still more liberal uses.

Upon the basis of carefully collected statistics, showing the actual progress of the last forty years, the steady advance of Brooklyn will, within the next fifteen years, carry the aggregate of its population beyond a million of inhabitants. A community of this magnitude, second to none in wealth, intelligence or enterprise, must not only occupy a large territorial extent, but will, in its expansion, require great educational, social and artistic facilities. Our young and aspiring historical, botanical and other kindred societies already demand ampler space for their development, while our men of letters and of science are preparing to seize the splendid opportunity here presented of establishing a university which shall be metropolitan in character as well as in position. The location we refer to will soon become the geographical centre of a great religious and intellectual people, which, with its park surroundings, will afford opportunities for mental culture, as well as for artistic and athletic training, such as can probably be nowhere else found, in equal measure, upon our continent. A wise forecast, therefore, seems to demand that these advantages shall be secured for the generations who are to follow us, and who are to advance the moral and mental progress of cur race.

After making this reservation, there will still remain east of the avenue a high plateau of land of about one hundred acres, remarkably well adapted for building purposes, whose value has been recently much increased by surrounding improvements. And the Commissioners respectfully submit for the consideration of their constituents whether, in view of what has been suggested, as well as of the financial considerations about to be presented, it may not be judicious to adopt the proposal of some of our wisest and most practical citizens, to allow this land to return to its former domestic uses, and thereby diminish the city debt and increase one of its great sources of revenue.

The plot in question contains about twelve hundred ordinary sized city lots of land, and would probably realize, if properly laid out and sold, with suitable building covenants, at least two thousand dollars a lot, or a total of say two and a half millions of dollars, to be applied in liquidation of the park debt. And if we increase this valuation by the probable value of the buildings which we may reasonably expect to see erected thereon, say five and a half millions of dollars, we shall add, independently of the immense stimulus thereby given to the surrounding property, eight millions of dollars to the taxable property of the city, and enlarge her revenue two hundred and fifty thousand dollars per annum. At the same time, we make a direct saving to the city of at least a million and a half of dollars, which is the probable cost of improving this property, if retained as a park, and of about twenty-five thousand dollars a year for the cost of its maintenance, with interest on both sums.

The Commissioners also, in a former report, submitted for public consideration the subject of putting the City Park (which it will be remembered is opposite the the Navy Yard wall) to some other use than that to which it is now subjected. Without reference to its natural defects as a pleasure ground, which were stated in that report, the immediate vicinity of Washington Park, with its superior attractions of air, prospect, and salubrity, rendering it a much more agreeable place of resort than the City Park, the question is unavoidably presented, whether, under these circumstances, it is at all desirable, or even proper, to devote that very considerable amount of expense and labor to its improvement, which would be necessary to make it suitable for the purposes for which it was originally designed; while its central position, its capacious and convenient sewerage, its nearness to the East River, and its consequent easy communication with all parts of the surrounding country, point to this spot as possessing peculiar advantages for a general market. The suggestions have since received further consideration from the board, and have also obtained, as they are pleased to find, the assent of many of our more experienced and sagacious citizens; and the board think they are fully warranted in the statement, that public opinion is now decidedly in favor of the change which they have suggested.

Brooklyn has long felt the want of a public market, where its retail trade can be furnished with those supplies of provisions for which it is now largely dependent upon the city of New York. The statistics of 1865 show that, in addition to the large amount of cereals raised upon our island during that year, there was sent to market from the same source of supply over three millions of dollars' worth of the various products of the garden, together with large quantities of milk, eggs, poultry, and other articles equally necessary for our daily sustenance, valued in the whole at something over six millions of dollars. The amount has since been largely increased by the greater facilities for transportation afforded by the two additional railroads which have since been opened on the north and south sides of the island, leading directly to the city. And the great bulk of this produce may be said to be daily passing over our ferries to New York, mainly because it finds no suitable place in our city, on this side of the East River, where it can be received and held for distribution among our people.

Our city seems to be the natural depot for the sale of this large and valuable product of the island; and its already large population could probably dispose of it all with proper management, and yet it goes over to our sister city, passing by the very doors of those for whom it is really designed, and who are obliged to follow and there purchase it at a largely increased price, and in a very deteriorated condition. Our citizens at the same time lose the benefits of the trade which would naturally result, if the farmers had an opportunity of spending the money received from the sales of this produce among them; while the value of property in the neighborhood continues in a very depressed condition, and the city is deprived of the advantages which would necessarily follow upon the large increase of taxable property resulting from the proposed improvement. For these reasons we hope soon to see our corporate authorities resume their control of the City Park, and, after properly regulating the ground, proceed to the erection of a substantial general market, upon so liberal and enlarged a scale as shall secure to our citizens a cheap and full supply of all the prime necessaries of life; while, at the same time, our city will establish a credit for corporate enterprise, and open to itself new and abundantly fertile sources of revenue.

The financial statement of the Board for the current year will be found appended to this report, showing the receipts and expenditures on account of each of the parks under their charge, as well as on account of the parade ground. The amount received from the city for the improvement of Prospect Park was eight hundred and forty thousand dollars, being the proceeds of sales of seven per cent. city bonds. From the rents of houses still standing on the park, with sales of old material, grass, and firewood, together with pound receipts and interest on bank balances, there has also been realized the sum of fourteen thousand six hundred and sixty-six dollars.

The statement further exhibits the entire expenditure of the Commission since its organization upon each of the parks, and the particular fund chargeable therewith. The total expenditure on account of Prospect Park for the year was one million and seventy-eight thousand six hundred and forty-five dollars; and on account of the other city parks, ninety-two thousand two hundred and sixty-two dollars. The largest disbursement was of course for labor, amounting to six hundred and seventy-five thousand eight hundred and eighty-nine dollars; a sum which, when compared with the number of men employed, shows that there has as yet been no reduction in the price of labor. The materials of construction have required an outlay of one hundred and ninety-two thousand one hundred and nineteen dollars, a large proportion of which was for stone, brick, lime, and cement used in the construction of bridges, and the laying of drainage and water pipe. An expenditure of nineteen thousand nine hundred and eighty-seven dollars for trees and shrubs has much increased the very fine and varied stock of our already extensive nursery. Fifteen thousand and fifty-five dollars were spent for drain pipe; and the Belgian and other pavements have cost seventy-one thousand three hundred and eighteen dollars.

The Commissioners respectfully refer to the reports of the engineer in charge of the work, and his assistants, for a further and more detailed statement of the several objects of these expenditures than can well be presented in the limited pages of this report. The vouchers applicable to each item of the account will be found at the office of the board, regularly filed and numbered for greater convenience.

Operations on the park have steadily progressed since the opening of the spring, and as many men as could be employed to advantage have been kept at work. In addition to the engineering corps in the service of the Commission, a statement of the laboring force employed will be found in the annexed report of an assistant engineer, from which it will appear that the main part of the force has been employed two hundred and ninety-seven days during this year. The largest number of men working at any one time was in the month of April, and consisted of thirteen hundred and ninety-two men, while the greatest number during the preceding year was eighteen hundred and forty.

The results accomplished by this force will better appear from the reports of our engineers, to which reference has already been made; but in general it may be stated that much of the easterly portion of Prospect Park is now complete, and has, during the latter part of the year, been in constant use by the public; and that the improvement of the residue of this park, except in the extreme western district, where, for reasons before referred to, nothing has been done, is in a very satisfactory state of progress.

The extent of ground which has been under treatment dursng the year is over two hundred acres; the whole area finished being one hundred and forty acres, exclusive of roads, walks and waters, of which area one hundred and nine are slopes and meadows, and thirty-one woodland. The finished drives now amount to nearly three miles and a quarter, being a little more than two miles in excess of that which we were able to report last year. Of bridle paths, we have nearly a mile and a half finished or well progressed; and of walks three miles and three quarters are completed, and nearly five additional miles in progress. The very large and continually increasing number of delighted visitors show how thoroughly these walks and drives are appreciated by them. A fine specimen of rustic work has been erected near the main entrance to the park for a summer house; and a vine-covered trellis work, with seats overlooking the children's playground, commands a beautiful sea and island view, and when covered with the foliage and flowers of climbing plants, will afford grateful shelter to all such as may be disposed to linger in its shade.

The somewhat comprehensive system of drainage and water works required for use in this park has been well advanced, and nearly four and a half miles of drain pipe, with two and a quarter miles of iron and cement pipe for water distribution, have been laid.

The grading, paving and planting of the interior of the Plaza is mainly complete, and in the course of the ensuing year it is intended to construct the large fountain basin which is to occupy the center of this important feature of the park design. Two archways, which were in progress at the date of the last report, have been finished, one of them for the passage of the walk under the main circuit drive near the entrance, and the other, the east road arch near the head of the lake. Two others are in progress, large quantities of stone having been dressed and prepared for the purpose of carrying on the work early in the spring. About twelve acres of the lake have been completed, and the Assistant Engineer's report will show to what extent the ice formed thereon during the season has been enjoyed by throngs of merry skaters, male and female. Early in the coming season the lake will have been increased in its dimensions to the extent of about twenty acres, and filled with water, adding a new and beautiful feature to the interesting scenery of this neighborhood.

In their last report, the Commissioners directed the attention of the Common Council to the fact that a large amount of taxable property had been added to the city since the commencement of active operations on this park, and showed from the records of the Board of Assessors that the increase in the three wards immediately contiguous thereto, to wit: the Eighth, Ninth and Twentieth Wards, amounted to seven million, four hundred and eighty-two thousand six hundred and ninety-two dollars. They observe, from a recent examination of the same records, that the increased valuation of real estate within the same territorial limits, for the year 1868, is three millions four hundred and ninety-three thousand one hundred and fourteen dollars, and has amounted in the whole to ten millions nine hundred and seventy-four thousand eight hundred and six dollars since work commenced on this park. An increase which, during the same year, has added to the revenue of the city, from these three wards alone, full ninety thousand dollars more than the annual interest on the whole park debt.

The Commissioners are pleased to find also that the advantages of the park to surrounding property have not been confined to the three wards we have specified, but have been productive of still greater benefit to our neighbours of Flatbush, where the value of real estate has more than doubled during the year; the assessed value of that town in 1867 being two millions five hundred and nineteen thousand nine hundred and fifteen dollars, while in 1868, at a period of the year when property had not yet realized the great advance it has since attained, it amounted to five millions and thirty thousand nine hundred and seventy dollars.

The proposed modification of Carrol Park is nearly complete. After an entire revision of its drainage and of its grassy slopes, the walks were laid with pine tar concrete, and finished with fine gravel well rolled in, producing a perfectly firm and smooth surface for the ease and comfort of visitors. Some additional trees and plants, with an ornamental flag staff, and a playground for children, were also introduced, and the improvements made seem to be fully appreciated by our citizens.

The revision of the ground at Washington Park—or old Fort Greene, as the older residents of our city still delight to call it—in pursuance of the plan which was laid down in the special report of our landscape architects, and appended to the last annual report of the board, is now so far advanced that it is expected to be opened for public use early next summer.

In concluding this statement of their operations for the year eighteen hundred and sixty-eight, the Park Commissioners take occasion to congratulate their fellow citizens upon the fact that we may at length be said to have a park in some degree commensurate with the magnitude and the requirements of a great city—a park where our eyes may be refreshed by resting upon something else than mere interminable rows of brick and mortar, and whose refining meditative influences will be ever teaching us that trade is not the whole end and aim of life; that we have a park richly garnished with natural beauty, whose quiet repose, luxurious foliage and fragrant ocean breeze will continually withdraw us from those engrossing mercenary pursuits by which we are too apt to be absorbed, and lead us up to better things. A broad precinct—free of access, permanent in duration, guarded well from rude intrusion—where genius may

bring its offerings, and nature and art blend together to work out images of serene and placid beauty, open equally to rich and to poor, and contributing alike to the pleasure and improvement of the sick and the well, the man of business and the man of work.

Dated January 28, 1869.

J. S. T. STRANAHAN,
President.

W. S. GRIFFITH,
Secretary.

JOHN N. TAYLOR,
Comptroller.

AN ABSTRACT OF THE FINANCIAL STATEMENT

OF THE

BROOKLYN PARK COMMISSION

FOR THE YEAR 1868.

The total receipts on account of PROSPECT PARK during the year 1868, were:

Balance of cash in bank, January 1st		$264,202 28
From Treasurer of the city	$840,000 00	
" Rents of houses on the park	4,965 97	
" Sales of old houses	1,175 00	
" Sales of wood, grass and old material	732 09	
" Interest on bank balances	6,779 43	
" Lost tools	99 73	
" Sales of stone	133 50	
" Park pound	780 90	
		854,666 62
		$1,118,868 90

The total expenditures for the same time were:

Paid Salaries—Comptroller, Superintendent, Landscape Architect and Engineers	$26,833 35	
" Surveyors, draftsmen and assistants	55,350 73	
" Laborers, keepers, mechanics, horses and carts	675,889 49	
" Materials of construction, tools and instruments	192,129 30	
" Stationery, printing and drawing materials	5,192 38	
" Fitting up offices, rent and repairs.	2,850 60	
" Trees, plants and shrubs	19,987 89	
" Manure and other fertilizers	4,987 60	
" Water pipe and hydrants	9,049 98	
" Drainage pipe	15,055 17	
" Belgian and other pavements	71,318 63	
		1,078,645 12
Balance to the credit of Prospect Park, December 31, 1868		40,223 78
		$1,118,868 90

The total receipts on account of WASHINGTON, CARROL, CITY HALL and CITY PARKS were:

Balance of cash in bank, Jan. 1st, 1868.		$66,435 55
From City Treasurer	$72,000 00	
" Interest on bank balances	800 00	
		72,800 00
		$139,236 55

The total expenditures for the same period were on—

Washington Park	$73,835 09	
Carroll Park	16,716 98	
City Hall Park	1,343 03	
City Park	367 98	
		92,263 08
Balance to the credit of the same parks, December 31, 1868		46,973 47
		$139,236 55

ON WASHINGTON PARK.

The expenditures on WASHINGTON PARK were:

Paid Surveyors and assistants	$2,906 82
" Materials of construction and tools	12,335 10
" Office furniture	50 58
" Manure	401 12
" Drainage pipe	1,293 15
" Laborers, mechanics, horses and carts	46,223 40
" Stationary, printing and drawing materials	313 98
" Trees, plants and shrubs	207 37
" Patent pavements	10,103 57
Total	$73,835 09

ON CARROL PARK.

Paid Surveyors and assistants	$598 89
" Materials of construction	1,162 31
" Manure	45 00
" Mechanics, laborers, horses and carts	12,444 26
" Trees, plants and shrubs	250 50
" Water pipe and drainage pipe	274 28
" Patent pavements	1,941 74
	$16,716 98

On the City Hall Park.

Paid laborers, horses and carts	$1,343 03

On the City Park.

Paid laborers and repairs	$367 98

Parade Ground.

The total receipts on account of the Parade Ground during the year 1868 were:

From the County Treasurer	$13,000 00	
" Sales of old material.....	139 00	
" Interest on bank balances.....	310 00	
		$13,449 00

The total expenditures for the same time were:

Paid Surveyors and assistants	$182 83	
" Materials of construction	2,456 37	
" Mechanics, laborers and teams..	6,078 01	
" Trees.....	55 68	
Expended in 1867	250 68	
		9,023 57
Balance to the credit of the Parade Ground, December 31, 1868		4,425 43
		$13,449 00

RECAPITULATION.

Balance of cash 1st January, 1868		$330,638 83
Received on account of Prospect Park.	$854,666 62	
" " other city parks.	72,800 00	
" " Parade Ground.	13,449 00	
		940,915 62
		$1,271,554 45
Expended on account of Prospect Park.	$1,078,645 12	
" " other city parks.	92,263 08	
" " Parade Ground.	9,023 57	
		1,179,931 77
Balance of cash, Dec. 31, 1861.....		91,622 68
		$1,271,554 45

TOTAL EXPENDITURES OF THE BROOKLYN PARK COMMISSION.

	1865.	1866.	1867.	1868.	Total.
Prospect Park	$17,780 90	$195,701 10	$973,903 60	$1,078,645 12	$2,266,030 72
Washington Park ..	.....	.....	1,851 86	73,885 09	75,686 95
Carrol Park	.....	.....	1,810 56	16,716 98	18,527 54
City Hall Park.....	.....	.....	.....	1,343 03	1,343 03
City Park.....	.....	.....	558 44	367 98	926 42
Parade Ground....	.....	.....	250 68	8,772 89	9,023 57
	$17,780 90	$195,701 10	$978,375 14	$1,179,681 09	$2,371,538 23

JOHN N. TAYLOR,
Comptroller.

AN ACT

To provide for the improvement and maintenance of the Public Parks of the City of Brooklyn. Passed May 1st, 1868.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. The Commissioners of Prospect Park, in the city of Brooklyn, shall have full and exclusive power to lay out, regulate, improve and maintain the public parks of the city of Brooklyn, and to govern, manage and direct the same, and the public use thereof; to make ordinances, rules and regulations for their proper management and government; to appoint such engineers, surveyors, clerks and other officers, and such police force as they may deem expedient, and to prescribe and define their respective duties and authority; to fix and regulate the compensation to be paid to the several persons so to be employed by them; to open, widen and grade the northerly side of Ninth avenue, between Montgomery and Union street, and so much of Fifteenth street as was extended to meet the Coney Island road, and laid down on the city map, by an act entitled "An act to extend the boundaries of Prospect Park, in the city of Brooklyn," passed April 30th, 1866; to locate, erect and maintain fountains on the said parks, or either of them, as well as upon the streets and avenues which form the boundaries thereof, or intersect the same; to erect and maintain iron and other fences around the said parks; to flag and reflag the sidewalks of said streets, roads or avenues on the side which is adjacent to the said parks; to increase the width thereof, and to set and reset curb and gutter stones, shade trees and lamp posts thereon; and to determine the particular location of any railroad track which is now or may be hereafter placed upon such road, street or avenue.

They may also in the name of the city, or of the said Board of Commissioners, at their option, bring any action which they may deem proper, to recover damages for the breach of any agreement, express or implied, relating to or growing out of the management or improvement of the said parks; for penalties for the violation of any ordinance; or for injuries to personal or real property appertaining to the said parks; or to recover the possession of any such property.

The land taken (and set apart for a Parade Ground for the county

of Kings), shall be the property of said county, as and for a parade ground; and shall be under the exclusive charge and management of the Commissioners of Prospect Park, in the city of Brooklyn, for the purposes of police and improvement as such parade ground.—*An Act to provide a Parade Ground for the county of Kings, passed April* 27, 1868. Sec. 7.

The several pieces and parcels of ground, parks and squares in the city of Brooklyn, and the sidewalks, fences and trees adjacent thereto and being between any part of the same and any public street or avenue, or the part thereof devoted to carriages hereinafter mentioned, shall hereafter be under the care, management and control of the Commissioners of Prospect Park, as fully and completely as Prospect Park is or may hereafter be under their control, care and management.—*An Act in relation to Parks in the City of Brooklyn, passed May 9th,* 1867. Sec. 1.

The parks and squares aforesaid are Washington Park, City Park, City Hall Park and Carrol Park.—*Same Act.* Sect. 2. Tompkins Park included by *Act of* 1870, *chap.* 566.

The joint board of Aldermen and Supervisors of the City of Brooklyn shall annually cause to be levied and raised the requisite amount of moneys for carrying this act into effect, and for the purposes thereof; and such money shall be promptly and regularly paid over to the said Park Commissioners for said purposes.—*Act of* 1867. Sec. 5.

The Brooklyn Park Commissioners are hereby authorized to seize and impound any cattle, sheep, swine, goats, horses, geese, or other animals found running at large upon any of the public parks in the city of Brooklyn; to impose a penalty of not exceeding five dollars, with reasonable expenses, upon each animal so seized; and to enforce payment thereof in such manner as they shall by ordinance direct.—*Act of May 6th,* 1868.

§ 2. Whenever the Board of Commissioners shall by resolution direct the streets or avenues specified in the preceding section of this act to be opened or widened, they shall fix a district of assessment beyond which the assessment for such opening or widening shall not extend. They shall then apply to the Supreme Court, at a special term thereof, to be held in the second judicial district, upon a notice to be published for ten days successively in the corporation newspapers, for the appointment of three Commissioners to estimate the expense thereof, and the amount of damages to be sustained by the owners of property, or other persons to be affected thereby, and to apportion and assess the same as hereinafter described, and the court shall thereupon proceed to make such appointment.

§ 3. The Commissioners so to be appointed shall, after having been duly sworn, proceed to estimate such expenses and damages; and after their report thereon shall have been confirmed by the said court, they shall apportion and assess the same, upon the lands and premises benefited by the said improvements within the district of assessment, to be fixed by the Park Commissioners, in the same manner as the Board of Assessors of the said city are by law directed to make similar assessments. And all laws now in force relative to

the opening and widening of streets or avenues in the city of Brooklyn, subsequent to the appointment of Commissioners of Estimate, and the proceedings thereon, and the duties of the several persons to be employed therein, substituting the said Park Commissioners in place of the Common Council and Street Commissioner of said city, and substituting also the Commissioners of Estimate and Assessment in place of the Board of Assessors of the said city, and including the levy and collection of the assessments for such improvements and the lien thereof, so far as they are not inconsistent with the provisions of this act, shall apply to and regulate all duties arising out of, or proceedings that may be had or taken under this act. But such proceedings shall continue to be under the direction of the said Park Commissioners, who shall act when required as the Common Council and Street Commissioner of said city would be required to act in relation thereto, and who shall employ an attorney and counsel, and all such surveyors, clerk, appraisers, and other agents as may be required for the purpose of the said proceedings.

§ 4. The Commissioners of Prospect Park now in office shall continue to hold office for four years after the expiration of their present term of office, and until others are appointed in their places, and from and after the passage of this act, the Mayor of Brooklyn shall be ex-officio a Commissioner of Prospect Park. They shall together constitute a Board of Commissioners to be hereafter known as "The Brooklyn Park Commissioners," a majority of whom, for the time being, shall constitute a quorum for the transaction of business. If any of the said Commissioners shall not reside in the city of Brooklyn, or shall neglect to attend the meetings of the board, for three monthly meetings, consecutively, after having been duly notified of the time and place of meeting, his office shall be deemed to have been vacated; and after the present number of Commissioners shall, for any reason, have been reduced to eight, each succeeding vacancy shall be filled for the residue of the term then vacant, by a majority of the ballots of the remaining members of the board; and upon such ballotings it shall be no objection to a candidate that he has once been a member of the board.

§ 5. The said board shall, in the month of January, of every year, make and render to the Common Council of said city a full report of their proceedings during the preceding year, with a detailed statement of their receipts and expenditures. And all ordinances or rules which they shall at any time adopt for the regulation, use and management of the said parks, shall immediately thereafter be published for at least ten days, in two daily newspapers printed in said city. No member of the said board shall receive any compensation for his services; and it shall be a misdemeanor, punishable by fine and imprisonment, for any Commissioner to be in any way, directly or indirectly, interested in any contract for services to be rendered, or materials to be furnished for or on account of the said parks, or either of them.

§ 6. For the purpose of providing the means of laying out, constructing and improving Prospect Park, the Mayor, Comptroller,

and City Clerk of the said city are hereby authorized and required to create and issue, at such times and in such amounts as the said Commissioners shall, by resolution, direct, the bonds of the said city, payable within fifty years from the date thereof, and bearing an interest not exceeding seven per cent. per annum, payable semi-annually. The bonds so to be issued shall not exceed three millions of dollars in amount, including the bonds already issued for such purposes; and shall be sold by or under the direction of the said Comptroller, at not less than par, either at public or private sale; and the moneys to arise therefrom shall be called the Brooklyn Park Improvement Fund. All bonds heretofore issued for the improvement of Prospect Park shall constitute a portion of the same fund; and all the provisions of the act passed May second, eighteen hundred and sixty-one, entitled "An act to lay out a public park and parade ground for the city of Brooklyn, and to alter the Commissioners' map of said city, passed April seventeenth, eighteen hundred and sixty-one," which relate to the redemption of bonds and payment of awards, and improvements, and the creation and management of a sinking fund applicable thereto, shall apply to and regulate all bonds that may be issued for the purposes of the said Improvement Fund; and for the payment of all such bonds, issued and to be issued, with the interest to accrue thereon, all lands within the boundaries of the said park are hereby specifically pledged.

§ 7. In case the said Commissioners shall at any time require money for immediate use before it can be realized by a sale of bonds, the said Comptroller, on the request of the said Commissioners, may pledge such bonds for a temporary loan of money thereon. All money to be realized from sales or pledges of bonds shall be immediately deposited with the Treasurer of the said city, to the credit of the said improvement fund; and shall be held and used for the construction, improvement and maintenance of the said park, and the adornment thereof. The said Board of Commissioners, through their President and Secretary, shall from time to time make drafts upon the said Comptroller for such amounts as may be required for the prosecution of the park business, after the same shall have been authorized by the Board; each of such drafts shall specify the object for which it is drawn, and the Treasurer shall pay the same on the order of the Comptroller, countersigned by the Mayor and City Clerk.

§ 8. In order to provide for the maintenance and general improvement of the said parks, there shall be added to the general tax to be levied in said city, in each and every year, such sum of money, not exceeding one hundred and twenty-five thousand dollars, (*as authorized by laws of* 1872, *chap.* 711,) in any one year, as the said Board of Commissioners shall from time to time, by resolution, determine to be necessary for the proper maintenance, improvement and ornamentation of the said parks. The joint Board of Supervisors and Common Council of the city of Brooklyn shall annually cause the amount so determined by the said Commissioners to be raised and levied in like manner as other taxes are raised and

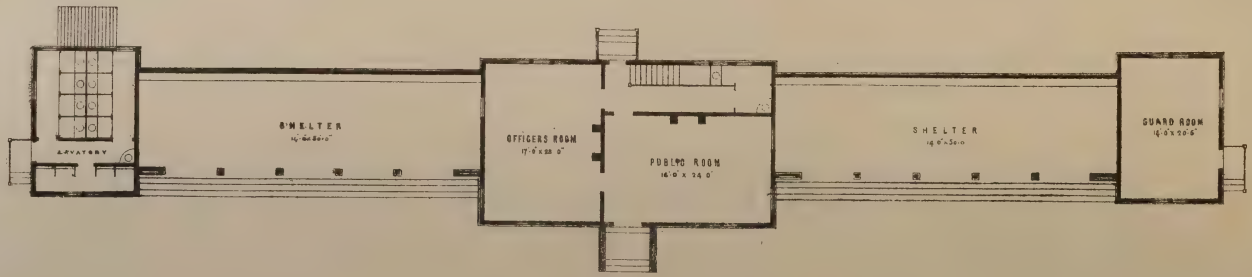
levied in said city, and the same shall be promptly paid over to the said Park Commissioners for the purposes aforesaid.

§ 9. Real or personal property may be granted, conveyed, devised or bequeathed to the said city, for the improvement or ornamentation of the said parks, or either of them; or for the establishment or maintenance within their limits of museums, zoological or other gardens, collections of natural history, observatories or works of art, upon such terms and conditions as may be agreed upon by and between the grantors or donors thereof and the said Board of Commissioners. But all property so to be granted, conveyed, devised or bequeathed, and the rents, issues and profits thereof, must be subject to the management and control of the said Board; and may be improved and added to in its discretion; and shall be protected, preserved and arranged by the said Board for public use and enjoyment, under such rules and regulations as the said Board shall from time to time prescribe. Admissions to said gardens and museums may be either free to the public, or upon the payment of such sums of money as the Board may determine; and all income to be derived from such admissions shall be applied to the improvement and maintenance of such gardens and museums, or of the said parks. The Board may also agree for the management or maintenance of any of the said gardens or other institutions with any society, incorporated or to be incorporated under any law of this State; but such gardens or other institutions shall always remain subject to the control of the said Park Commissioners.

§ 10. This act shall take effect immediately.

FRONT ELEVATION

LODGE AND SHELTER - KINGS COUNTY PARADE GROUND.



GENERAL PLAN

OLMSTED, VAUX & CO., LANDSCAPE ARCHITECTS

REPORT

OF

LANDSCAPE ARCHITECTS AND SUPERINTENDENTS.

To the Brooklyn Park Commissioners.

Gentlemen:—We lay before you our customary annual report upon matters of design, construction and superintendence.

DESIGN.

No material modifications have been made in the primary study of the plan of the park during the past year, but in the elaboration of that part covering the district between Franklin avenue and the water adjoining, the original lines have been somewhat changed, the drive and ride widened, and a return branch of the drive has been introduced on the west shore, the object of the whole variation being to give a more decided promenade character to this long southerly stretch of shore road, and to bring it into more close connection with the principal carriage concourse at the east end of the lake.

The removal of a large deposit of sand, needed in road construction, which was found just below the original surface near the middle of the park, south of the old line of Third Street has made it practicable to broaden the dale effects originally designed to be secured in the vicinity, and to carry the east dale walk in a more direct course than was originally proposed—both results being very desirable.

As the city can not expect to secure due returns for its expenditures without employing every economical means of extending the influence of the park by increasing its general accessibility, we feel compelled again to call attention to the importance of an early review of certain parts of the present street plan, and to the adoption of at least a few elementary lines by which the inconvenience arising from its complexity may be avoided in its necessary future extensions.

Expensive undertakings are constantly being projected and advanced, which are sure either to result in great waste of private property or to force street arrangements to be hereafter adopted which will be a permanent source of unnecessary expense, and of extreme public inconvenience. The uncertainty of what may be determined upon hinders wholesome enterprise, favors speculation, and prevents the application of capital to improvements which would be of real use to the city.

The jealousies grounded on convictions of antagonistic interests, which alone prevent a general movement to the proposed end, are every year increasing, and, in the nature of the case, are likely to constantly grow more complicated and difficult to harmonize.

Some new elements have been developed during the year that have a bearing on the suggestions made in our several previous reports on this subject, the most important being the approximate location of two bridges over the East River, one within two miles of the plaza, the value of which, as a point of radiation to other parts of the city, is thus enhanced, and the other in a very convenient position for an initial point in a northerly direction of the plan to which public attention was invited in your report of 1866. It may be advisable, therefore, to restate succinctly the essential features of this plan.

Certain central or focal points of improvement are proposed to be fixed upon without delay. These would be selected with reference to the probable future demand for places of residence which would be conveniently reached by people engaged in business on Manhattan Island, the shores of the East River, and other places offering special natural advantages for commerce. These focal points would be connected by direct lines of broad streets which, it is presumed, would become the trunk lines of all future improvements in the suburbs, so that afterwards these would all progress in some degree of harmonious relation one with another, as well as with the completed portions of the city.

The park should form one of the proposed focal points, and being the most important of all, as it will be nearer the center of the business of the port than any other center of residence either on Long Island or Manhattan Island, the several trunk lines should be so directed as to cause each of the other focal points to be placed in the most direct practicable communication with it. One is proposed to be established at Fort Hamilton, another at Bay Ridge, another at some central point in the Eastern District, another at or near East New York or Ridgewood, and another in close connection with

the head of the bridge proposed to be carried across the East River where it is divided by Blackwell's Island, by which the whole system would be brought into direct relation with the Central Park and the new trunk lines of residence quarters now being laid out in connection therewith.

One other question of design remains to be referred to, having relation to the proposition lately urged upon your attention, and which is now before the Legislature, for an appropriation to pleasure ground purposes, of a tract of land situated at the junction of Atlantic, Washington and Underhill avenues.

So far as this proposition is designed to give more importance to the approach to the park from Washington avenue and Williamsburg, we think its object would be more satisfactorily accomplished by widening Underhill avenue, as shown on the accompanying plan. There would be a clear advantage to the city in this modification, whereas the interruption of communication with the principal entrance to the park, of the streets that would be closed if the proposition referred to were carried out, would be a positive detriment to public convenience of a serious character.

In other respects the scheme is one of the same class with others that have from time to time been urged on your Commission with a view to secure the improvement as a public pleasure ground of the whole of the city property lying east of Flatbush avenue, contrary to our general design and to the recommendations set forth in our reports of 1865 and 1866.

In all propositions for dealing with this property, there are two distinct questions involved, one of the legal obligations of the city, the other of its interests. It is with the latter only that we have to do in a study of plans. A fair judgment in this respect can, however, hardly be exercised without a consideration of the fact, that although the land in question was originally taken by the city in good faith for a public ground, and although the city has since acquired land by the side of it, also for a public ground, it is nevertheless demonstrable that the views which governed the selection of the one, and those which led to the selection of the other, were so different, that the first taken can not now be realized without a sacrifice of the advantages secured with the last.

We consider, therefore, that all plans for using the grounds north and south of the reservoir as a garden or park must involve a weak and wasteful compromise, and should be persistently resisted. That our meaning may be fully understood, it may be desirable to recall

the circumstances which have led to the acquisition by the city of the two bodies of land in question.

In the year 1858, a project was bruited about for establishing a series of public pleasure grounds in and about the city, each of which was intended to be located and laid out with reference to the accommodation, not of the population at large, but for the special benefit of that portion of the population which should live nearer to it than to either of the others.

To advance this project, a Commission was formed by an act of the Legislature of 1859, which the following year reported a plan whereby the city would have had to maintain eight considerable public grounds. Three of these were to be of large size, and were intended for the benefit respectively of the Eastern, Central, and Southern districts of the city, while five others, more nearly of the class of Fort Greene, were designed still more especially for local resort. Of the larger grounds, one was to be connected with each of the great city reservoirs, the third was to be at Bay Ridge.

Although the land recommended to be taken at one of these points was soon afterwards acquired by the city, no measures looking to construction were adopted, and the eight-park scheme, as it stood at the time this ground was selected, soon came to be considered an unwieldy and impracticable one, and in effect was abandoned.

Nothing more was done toward supplying the city with pleasure grounds until after a period of eight years from the origin of the first project.

In the meantime, an experiment of the sort of local pleasure grounds which, on account of the expense involved, were alone practicable under this eight-park scheme had been tried at Fort Greene and found to result in an injury rather than a benefit to property in the neighborhood, while New York had fairly established the superior advantages of a concentration of capital in the production of a comprehensive, well equipped and well kept park, adapted to draw together all classes of the community from every part of a great city. It had also begun to be realized, that so long as Brooklyn offered nothing of the character of the New York park, it must expect to fall rapidly into the background as a competitor in providing attractive sites for the residence of a large tax-paying class of citizens.

In the light of this experience, it had become generally evident in 1865, when our relations with your Commission commenced, that effective discussion centered upon a very different idea from that

which had led to the acquisition of the two pieces of ground on Flatbush avenue.

Instead of a scheme for establishing several public grounds, each designed for the special benefit of a district, ward or locality, the pressing demand now was for one strikingly fine park, adapted to be resorted to from all quarters, which would retrieve the prestige which had been lost to the city by the construction of the Central Park.

The duty of developing a practicable scheme for this purpose having fallen naturally, though not perhaps by distinct previous legal enactment, upon your Commission, an examination of the neighborhood within which lay the property under your control, showed that it occupied a position with reference to the distant parts of the city highly important to be considered in the solution of the new problem, although no weight had been attached to it in the original selection of the ground as a site for one of eight district pleasure grounds.

To understand its consequence, it needs to be remembered that the present city of Brooklyn has been mainly formed by the gradual filling up of the space between several original centers of settlement, and that within the last thirty-five years there have been several eras of speculation, during which large isolated estates have been divided for sale in lots, by which additional local street systems have been inaugurated. The present city therefore includes many quite distinct systems, laid out independently, and having no convenient relation one with another. In consequence of this fact, few points in the city, and especially in the suburbs, are accessible from more than two sides by direct lines of communication over a mile in length. A certain locality, however, which adjoined, though it was not included within the property of the city in the eighth and Ninth Wards, constituted what was practically a converging point on the city map of several systems of communication, as will appear by the accompanying diagram, and the following table showing the distance from the several points named, to the locality in question respectively, by a straight line, and by streets already laid out:

	By straight line.	By streets.
From South Seventh street, Eastern District.....	2 40-100 miles.	2 50-100
From Hudson avenue, East River..	2 10-100 "	2 12-100
From Hamilton avenue, East River	2 2-100 "	2 3-100
From Greenwood Cemetery.....	1 31-100 "	1 31-100
From the Hunter Fly Road, City Line.....	2 48-100 "	2 48-100
From Flatbush Church.....	1 71-100 "	1 78-100

The locality in question is an average distance of two miles in a straight line from the several points named; and it will be seen that by existing streets the deviation is so slight that it would make no appreciable difference in an ordinary carriage drive.

Under these circumstances it was thought advisable first of all to take measures to secure possession to the city of so much ground as was necessary to be controlled in order to turn this advantage of the locality to proper account. This having been done by the acquisition of the site of what is now called the Plaza, there could be no question that any park intended to be formed in the vicinity for the use of the people of all parts of the city should, if possible, be so located as not in the least to neutralize this advantage. If placed entirely within the two converging lines of Flatbush and Ninth avenues, no street leading towards the locality would be in the least interfered with, while, with hardly any change of the lines as they then stood on the city map, twelve streets and avenues would open on a spacious public place laid out in front of the natural entrance to the park on the city side.

It happened also that by pushing out a little into the country within these two converging lines, there was found what was most wanted in order to secure a suitable proportion and good general relation one to another of the several chief topographical elements of park scenery, in hill and dale, meadow, wood and water. It moreover became evident that even if it had been found really desirable, on account of greater convenience of access, these topographical desiderata could not have been nearly as well secured in any other direction. Accordingly, in forming the new plan for a park, it was assumed that a certain piece of land on Ninth avenue, and another on Franklin avenue, both within the before-mentioned converging lines, would be added to that already in possession, and that a certain other piece of land which had been secured entirely with reference to the abandoned local pleasure-ground scheme, and which was wholly undesirable to be regarded in the new plan, would be disposed of in such a way as would most benefit the city.

The object in view in the whole arrangement being simply to secure the best park possible under the circumstances, and, at the same time, to guard in every way against the unnecessary obstruction of important lines of communication through the city, it was evident that the *acquisition* of the ground on Ninth and Franklin avenues, and the *abandonment* of a large part of the ground on the east side of Flatbush avenue, were alike logical and essential measures for the accomplishment of this end.

It was, however, thought necessary to reserve so much of the ground on the east side of Flatbush avenue as was required to prevent the erection of private dwellings within two hundred and fifty feet of the basin of the reservoir, together with ample sites for any public institutions which it might be desirable in the future to place in the vicinity of the park, care being taken that the latter should not stand in the way of the most convenient possible street arrangements. The ground around the reservoir was designed to be laid out as a public garden; not because it was wanted as an appendage to the park, but because it was a convenient way to protect the reservoir from a too close apparent proximity to possible private constructions which might suggest to visitors the possibility of a pollution of its contents. By a foot bridge over Flatbush avenue, however, the garden was planned to serve the purpose of a pleasant approach to the park from Washington avenue. All this could be done without encroaching upon any desirable lines of street communication.

It will be observed that the advantages of the plan, as thus set forth, are mainly found in conditions, the value of which will be palpable to all upon an examination of maps. The superior landscape capabilities which we have claimed for the ground west of Flatbush avenue may, however, be considered a matter of opinion. We shall, therefore, attempt to briefly indicate a few of the main particulars in which the park, as now designed, appears to us to possess advantages in the promise of scenery appropriate to its purpose, over any that would be available in a park planned to be situated either wholly or in part on the east side of the avenue.

From many points of the drives, rides and walks, the eye will range over a meadow-like expanse, wherein the first definite obstruction or break in the turfy surface will be at least half a mile away, sometimes considerably more than that, and in which tree tops will be seen in rising perspective fully a mile away. These views will not offer merely peeps, but will comprehend quite broad and well-balanced pastoral landscapes, free from any object which will suggest the vicinity of the city, from which it is the primary purpose of the park to give the means of a ready escape. Views will be had over water surface of equal breadth and distance. The visitor will feel the sense of freedom and repose suggested by scenes of this character, and be impressed by their breadth of light and shadow, all the more because they will be enjoyed in alternation and contrast with the obscurity of the thick woods already established, through the seclusion which he will be occasionally led. There is hardly a rood of ground in the park which, besides serving its own local purpose,

will not contribute to general landscape effects, so that every part, whatever its special value, will be associated in such manner with other parts as from some points of view to seem designed to be auxilliary to them, and from others to be supported by them.

We are unable to see how the ground on the east side of Flatbush avenue could be laid out in such a way as to obtain these almost invaluable conditions for a great town park, in anything like a similar degree. Nor do we see how it would be possible to secure any distinct unity or valuable landscape relationship between the park and the land in question. The sunken traffic roads in the Central Park are sometimes referred to as offering a parallel to the division formed by Flatbush avenue, but for the greater portion of its length along the line in question Flatbush avenue is a causeway, and constitutes a barrier thirty feet high to all views between one piece of ground and the other. Elsewhere, for a short distance, it is true that it lies below the level of the adjoining ground, but it occupies a space one hundred feet wide, and divides a hill. The sunken roads in the Central Park, where the eye ranges over them, are little more than a third of the width, and were laid out with the utmost care to avoid any perceptible break of the surface of the ground where it would be visible to visitors. Where they cross a line of view, it is usually at a distance of more than a quarter of a mile from the observer. There is, on the other hand, no point more than a hundred yards distant from Flatbush avenue where the eye could range across both the sites in question.

The pieces of ground on the north and south side of the reservoir must be regarded as practically distinct from one another, as well as from the ground on the opposite side of the avenue; and if it be improved as proposed, could hardly be treated in any other than in a comparatively small house-garden-like way.

It has been thought that the distant prospect over the city to the harbor from the grounds on the east side of Flatbush avenue, was a point of superiority; that part of it, however, which is proposed to be retained within the reservoir garden, commands this view much better than any other, so that this advantage is, under any circumstances, intended to be secured to the city. In no other part of the ground, in fact, is the distant view a consideration of any consequence, because from no other part of the ground can the control of it be long retained. As soon as the ground east of Flatbush avenue, now being graded for building, shall have been occupied, the present view will be quite cut off. The distant outlooks from points now included in the park by the extension of the boundaries on the west side of

Flatbush avenue, are not only in our estimation far more valuable and suggestive as accessories of the park, but they are not in a position ever to be cut off, or even seriously injured by the inevitable march of city improvement.

It has been proposed that the ground east of the Plaza, if not thought desirable to be incorporated in the park, should be laid out as a parade ground, or as an arboretum, or as a botanic garden, or as a zoological garden, but the site possesses no evident natural fitness for either one of these purposes. Even if it so happened that it offered some advantages for either, and it should be thought best to associate such a ground with the park, a site should clearly be preferred which promised incidental benefit to the park scenery, which this would not. To show how such sites might be selected, we may refer to any of the special districts which are not, strictly speaking, territorially a part of the public park as now planned, but which, nevertheless, besides serving a special purpose, constitute a real addition to its attractions.

The ground assigned for a children's garden is, for instance, so placed that no visitor will enter it except by special intention. Yet, following the main park drive or walk on the east side, every visitor in approaching its border will, almost immediately after passing the entrance, be made to feel that he has plenty of room, all at once, on both sides of him. The trees on the opposite border of the children's ground being so placed as to shut out all inharmonious exterior objects, and yet so that no distinct limit to the rural country on the left will be discernable.

Again, the enclosure set off for the pasturage of deer is so arranged that, while the visitor cannot enter it, he will not notice any artificial obstruction. It will appear a bright, sunny little meadow, with sparkling water, lost in the distance under trees, and this will come at a turn of the road, between two stretches which will be all in shadow, and where the view will have been for a time closely confined by dense underwood.

Again, the Kings county parade ground, while entirely outside the park boundary, is so placed that it serves a very important and, indeed, almost invaluable landscape purpose, when seen from the high grounds within the park; and so of every other special ground which is now intended to be connected with it.

There is no object to be accomplished by appropriating the ground in question to any form of garden, which would not be much better served by establishing it in some other part of the city, where it would incidentally give the advantage of an airing ground to persons

living at too great a distance from the park, to habitually resort to it with ease and frequency. The residents of the Ninth and Twentieth Wards can hardly claim to be in this condition, and the supposition is a mistaken one that they would experience any serious additional difficulty in reaching a pleasure ground, if the site which the Commission proposes to discard is laid out with a view to an improvement of the general approaches to the park, instead of to any purpose which would involve its enclosure. The additional distance to be traveled over from all the house lots in the Ninth Ward to the entrances of the present park, and to those which were planned under the old scheme, east of Flatbush avenue, will be crossed by a carriage driven at the rate of six miles an hour, in seventy-five seconds. The difference to those approaching on foot, considering the reservoir grounds as a part of the park, will be less than that. From all the house lots of the Twentieth Ward the present park will, on an average, be entered sooner than the park as formerly planned, east of Flatbush avenue, could have been.

The principal reasons which have led to the preference of other ground for the park over that east of the Plaza have now been given, and we may add, in a few words, the reason for the arrangement recommended for the laying out of the discarded ground. As the street lines had been originally established, those on the east side appeared to approach the park less advantageously than those on the west. In the plans which we have from time to time submitted for your consideration, our main object has been to counteract this apparent misfortune of the east side.

No one who has examined the plan before the Board can have failed to recognize, we think, that under it an approach to the park through either of the confluents of the Plaza is calculated to produce a decided effect of dignity, stateliness and *fitness of position.* An expenditure of millions could not be made to give the same especial advantage to the New York park. According to our plans there are six approaches of this character opening upon the Plaza from the west, and six from the east, which is a fair and equitable arrangement, as well as an artistically complete and well-balanced one; but if the ground north of the reservoir should be appropriated to a garden, it is evident that while the six approaches on the west side would remain in tact there would be but two on the east side, neither of which would lead fairly toward the eastern part of the city.

We have considered it an object to secure not only fine approaches, but to so arrange the vacant ground in the immediate

vicinity of this principal entrance that, after a few years, strangers visiting the park would be sure to receive a vivid impression of the metropolitan advantages offered by Brooklyn as a place of residence. For this purpose the ground belonging to the city, and undesirable to be included in the park, is proposed to be laid out in such a way that it can be disposed of in lots of unusual size, and otherwise well adapted for urban residences of the very finest character. Such an impression produced at one point, would undoubtedly have a favorable influence upon all the neighborhood, and upon the reputation of the whole city.

We argued the advantages of this general element, in the motive of our design at length, in our Annual Report of last year, and only refer to the subject now that it may be better seen why we attach importance to an arrangement which tends to bring all strangers to the park in such a way as to establish the strongest favorable impression upon their minds, rather than by such indirect or subordinate and comparatively insignificant approaches as would be necessary on the east side, if our plans in this respect should be overruled.

From all that we have said, we trust it will be seen that the design, as it now stands, is intended to develop the previous natural and accidental advantages of the site of the Plaza, as a center, or radiating and converging point, of a great residence quarter of the metropolis, and that this design, to which a large expenditure has already been directed, is impossible to be reconciled with the closing of the streets on the east side of it by a public garden.

CONSTRUCTION AND SUPERINTENDENCE.

Statements in detail are appended, made up from their respective records by the engineer in charge and his principal assistants, which show the constructive character and extent of the works which have been carried on during the year, together with statistics of the force employed, organization, discipline, supplies and public resort.

We shall briefly call your attention to the more significant facts in these respects of the year's history of the park.

A winter of extraordinary, if not of unprecedented severity, was followed by a season equally remarkable for the frequency with which storms occurred, and the amount of rain which fell. During several months, work was almost daily interrupted, or prosecuted under difficulties, and a great deal of labor was expended in opening

channels and repairing damages upon ground under construction. These conditions were also unfavorable to the public use of the park.

The park has nevertheless served the ends for which it was designed to an extent which could hardly have been expected in the existing stage of its construction, and upon which the Commission is to be congratulated, those resorting to it for health and pleasure often numbering, on fine days, twenty to thirty thousand, and sometimes forty to fifty thousand. The influence of the park is perceptible in the rapidly increasing number of horses and carriages kept for pleasure driving and riding in the city, and in the number of men who have adopted the practice of taking a daily drive or ride with their families. It is observed that these often bring guests with them, and it is evident that the park is already regarded with some degree of pride, though this must be for the most part rather in what it promises than in what it is.

The real economy of the large expenditure which the city is making on the park will eventually be tested chiefly by the degree in which it shall have come to be regarded as a convenient adjunct of the household property of all the citizens, and in which its advantages for the preservation and restoration of health shall be familiarly recognized and set down on the credit of family accounts. A satisfactory indication of what may be expected in the future, was therefore afforded by the frequency with which in the latter part of the summer it was to be observed that families had come to the park, not merely for a drive or stroll, but to pass some hours, or a full holiday, or half holiday, refreshments, and sometimes musical instruments being brought with them. Women often came alone, or with their little ones, to stay for some hours, bringing their needlework; and a number of invalids, aged people and convalescents were to be seen every fine day enjoying the air and the quiet which they found in the groves of the park.

Numerous schools and bodies of children connected with charitable establishments, also spent a day or half day on the park during the summer, some returning several times, teachers, parents and friends coming with them. When these parties were large, special ground was assigned them, and they were protected from disagreeable intrusion. Swings, scups, seats, tables and fresh water were supplied to all without charge, as was the use of dressing and retiring rooms, with proper attendance. An arrangement was also made by which ice, ice-cream, biscuit, and lemonade could be provided on the ground, at fixed moderate charges. Seventy-five considerable

excursion or pic-nic parties were reported by the keepers to have received their special attention.

As the part of the park best adapted to this class of visits has not yet been improved, and its advantages are known to comparatively few, and as a much larger number of suitable places will eventually be available for the purpose, it may be expected that the number of holiday parties will increase, and ultimately form a very agreeable and interesting feature of the park. No artist could imagine prettier or happier groups than were to be frequently seen among the trunks of the east and west woods on nearly every fine day last summer.

The complete absence of a disposition to disorderly or unbecoming conduct, and the general good nature, civility, and decorum which prevailed, was also most encouraging.

Although the acquisition of the western district of the ground required for the park was last winter authorized by the Legislature, it has not yet come into the possession of the Commission; the lack of this territory has therefore continued to embarrass operations throughout the year, and active work has of necessity been confined mainly to the eastern side of the park. A full statement of the progress made will be found in the reports subjoined.

It will be observed that the east drive has been completed; also, most of the bridle road on the east side, and three miles of walk. The northern arm of the lake is complete, including about twelve acres of water surface, and a large part of the remainder has been excavated. Breeze Hill concourse is finished. So much of the parade ground as will be used for parades, has been finished and inclosed by a strong paling. The turf is well established, and was used with satisfaction in several regimental and brigade parades during the summer. A number of structures of masonry and substantial rustic work have been completed, and others are well advanced. The development in detail of this department of the work, has been for the most part under the charge of Mr. E. C. Miller, who was fulfilling the duties of assistant architect at the date of our last report, and whose appointment to the position was subsequently confirmed by your Board. Seventy acres of open ground have been laid down to turf, and thirty acres of wood and coppice land finished. The great well has been sunk nearly to the depth of permanent water flow, and an account of this work is furnished by Mr. Martin, who prepared the plans in accordance with which it was executed. Fair progress has been made in planting and improving the original growth of the park. The Commission has been fortunate in obtain-

ing a considerable number of trees originally planted in private grounds, of much larger size than can be had from nurseries. Of these, several of fine character were presented by Mr. S. R. Trowbridge. For the removal of trees of this class, two machines have been invented and constructed on the park, and it is desirable that it should be generally known that the Commission is prepared to transplant to the park any thrifty low-branched tree, the weight of which, with its ball of roots, will not exceed fifteen tons. There are many such in private grounds, which, as they stand, serve no good purpose, and others which must necessarily fall if not soon removed, to make way for new streets or buildings. The public is indebted to Mr. M. S. Beach for a present of six hundred shrubs taken from his country place on the Hudson, and to Commissioner Husted for some fine trees for the replanting of Fort Greene.

The plan of managing the keeper's force and the gardening workmen in such a way that each would at times help the other, has been gradually coming under trial, and with the advantage of a most discreet and assiduous oversight on the part of the Park Inspector and his assistants, seems to be working well. All the regular daily work required to keep in tidy order the walks, steps, seats, shelters, arches, bridges and other constructions with which visitors have to come directly in contact, is now done by the keeper's force early in the morning, before visitors ordinarily require their attention, while any insufficiency in the number of keepers arising from illness, or from unexpected demands upon them, is at once made good by drafts from the gardening hands. Both wings of this organization are advancing satisfactorily in a proper understanding of the duties that will be required of them, and in efficiency.

In pruning the old forest trees an extension ladder, invented for the purpose by our general foreman of gardening work, has been found of much value.

We have to lament the death of Mr. G. D. McMillan, who until the middle of the last planting season had been charged especially with the detail of arrangement and the planting of the greater part of the shrubbery of the park. He was a faithful and zealous public servant, an intelligent and tasteful gardener, and a man of estimable character.

The re-grading of Fort Greene is essentially complete, and about two-thirds of the new ground has been finished and planted, in accordance with the design approved by the board. The portion of the ground intended as a place for public meeting was some time since completely graded, and the greater part of it paved. It has

been in use for several months as a drill ground, and will be available for all its designed purposes early next summer. One mile of the walks of the interior pleasure ground has been graded, one half of which has been completely laid with the Scrimshaw patent pavement, with gratings and other suitable arrangements for efficient drainage.

The plan of Carrol Park, as it originally existed, has been revised, the length of walk being considerably reduced, the width increased, and other changes made. The walks have been laid with the Fiske patent pavement, on a new plan, slightly dishing to the center, so as to avoid the necessity of side gutters. The plan is found to work well, giving practically an increased accommodation, and causing apparently no perceptible greater inconvenience. An open area in which children can play without interrupting communication on the walks, has been formed at one end, and in this paved space fixed swings and see-saws were set up just before the close of the season. Two small houses for the accommodation of visitors, with refreshment stands, tool closets and water closets, have been erected. A decorated flagstaff has also been lately set up.

None of these improvements were completed until the end of the season, but the effect in increasing the value of the park to the public was evident during all the latter part of the summer and autumn in an attendance fully twice as large as was observed the previous year.

Respectfully,

OLMSTED, VAUX & CO.,

Landscape Architects and Superintendents.

BROOKLYN, *January* 1*st*, 1869.

REPORT OF C. C. MARTIN,

ENGINEER IN CHARGE.

PARK COMMISSION, CITY OF BROOKLYN,
ENGINEER'S OFFICE, *January 1st*, 1869.

MESSRS. OLMSTED, VAUX & CO.,
Landscape Architects and Superintendents.

Gentlemen :—During the past year the paving of the interior portion of the Plaza with Belgian blocks has been completed. The interior curbing has all been set, and the corners properly placed. The foundations, steps, and brick paving for the flagstaff areas have been completed. The sewer, water and gas pipe were laid before the paving was done. The railroad track of the Flatbush avenue line has been laid around the side of the fountain with curves of two hundred feet radius as designed, but it was found impossible, with the ordinary construction of road, to keep the cars upon the track without elevating the outer rails on the curves, and this having been done, seriously interferes with the symmetry and harmony of the general grade of the Plaza. This can only be rectified when the increase of traffic becomes sufficient to warrant the railroad company in making some improvement in the construction of the cars to meet the serious difficulties that unavoidably occur at this important point. At Manchester, a central guide wheel has been successfully used for several years, and this or some similar arrangement should, as soon as practicable, be experimented with on the Plaza cars.

ROADS.

The park roads made during the season do not differ materially in construction from those described in my last report; the principal portion, however, having the Rubble foundation. The Rubble foundation is much cheaper than the Telford; and so far as observations have been made upon the park roads during the year, there are no indications in favor of the Telford. This result might not hold for traffic roads, but for light driving on a park it is undoubtedly true.

That portion of Franklin avenue which bounds the park on the south, and divides it from the Kings County Parade Ground has been remodeled and improved. Special effort has been made to secure economy of construction, with the expectation of a reasonably good and durable roadway. The width of the avenue is now one hundred feet, fifty feet of which is devoted to sidewalk—(thirty feet on the park side and twenty feet on the parade ground side)—and fifty feet to roadway.

The excavation was made to a depth of fifteen inches below the finished grade, over the entire roadway, and this depth was filled with a coarse material, from our lake excavation, which was composed entirely of sand, gravel and stones, varying in size from the finest sand to stone of from six to eight inches in diameter. In making the fill, care was taken to rake forward the stones and coarse gravel into the bottom, thus leaving a surface of a firmer, although porous, material. Upon the surface thus prepared, a layer of about one-fourth of an inch of loom was placed, and the whole thoroughly rolled with rollers varying from three to seven tons in weight. The result is a drive not equal to the park drives in many respects, but still a very great improvement upon the ordinary roads of the country. The curb and gutter is like that generally used in the city, and is carefully laid, and the road, for a distance of five feet from either gutter, is paved with cobble stones.

No experiments with new kind of roads have been made during the season. The sample laid by the Scrimshaw Patent Concrete Company in October, 1867, has been in constant use since, and in addition to the ordinary park driving, it has been subjected to the wear incident to the transportation over it of several thousand yards of material, in carts and wagons. It has constantly improved under this treatment, and is at the present time in good condition. The sample laid by the Fiske Pavement and Flagging Company has not answered so good a purpose, the surface having to some extent disintegrated and worn away. The circumstances under which this was tried were, however, very unfavorable to the pavement, as it was put into use within an hour after it was laid, (at the time of opening the first park drives), and it should have had time to become hard before being used. I think it would be well to try experiments with any style of roads that promises to be an improvement upon gravel roads. Perhaps nothing better than a gravel road, when in good condition, could be desired; but a kind of road surface which will reduce the cost of maintenance certainly is desirable. The expense of maintaining gravel roads is very great. The gravel disintegrates

under the action of horses' feet and carriage wheels, and if the roads are not constantly and thoroughly watered, this disintegrated material is blown away as dust during the summer. If not blown away, at every heavy rain a large proportion of it is washed from the road into the silt basins. This not only entails the loss of that amount of valuable material, but necessitates the renewal of the road surface, and this in turn requires excessive watering and expensive rolling, and incidentally the expensive cleaning of silt basins and sewers, follow from the use of destructible road surface.

Two improvements in the case of roads have been tried elsewhere with marked success. One is the use of chloride of lime and the chloride of sodium, neither of which are expensive, in the water used for sprinkling the roads. These unite with the fine material of the road surface, and by cementing them together, prevent both dust and the wash before mentioned. The other is in the use of steam rollers, in place of those drawn by horses. A steam roller can be made much heavier, can travel much more rapidly, and will do a much greater amount of work, at a greatly reduced cost. The rolling upon drives in use could be done at night, when there was no driving, and upon new roads at any time.

ARCHWAYS AND BRIDGES.

Both of the arches mentioned in the last report have been completed, with the exception of the wooden lining of that arch near the main entrance to the park, and this is nearly finished.

The foundations for the Meadowport arch have been laid during the season, and the abutment walls carried up to the springing line. The excavations for the foundations developed a stiff clay soil. The foundation was prepared by laying oak timber, twelve inches thick, about twelve inches apart, and filling the spaces between them with concrete; upon this foundation the heavy stones of the abutments were laid. The superstructure of this archway is to be of Ohio stone and of brick.

About the same progress has been made with the Nethermead arches. The material upon which the piers rest is a sharp, clean sand. Concrete one foot in depth was laid, upon which the walls were built; when these had been carried up about three feet, a heavy storm filled the pit in which the foundations were, with water to a depth of eleven feet. There being no outlet, the water filtered away between and around the piers and abutments in a few hours, but the stability of the masonry was not in the least disturbed thereby.

LULLWOOD BRIDGE.

OLMSTED VAUX & CO LANDSCAPE ARCHITECTS.

The waterway under this bridge is paved with flagging covered with one foot of concrete, to protect the foundations from any possibility of being undermined in times of excessive storms, or of accidents to the pools, which will be located above it. The superstructure is to be of granite, and Ohio stone facings, with a brick arch.

RETAINING WALLS.

The retaining walls at the south end of Breeze Hill, which sustain the walks passing between the abutments of the bridge and the lake, have been built. They are of uncoursed rubble masonry. The width of waterway between these walls is forty feet, and the water alongside the walls is to be one foot in depth, when the water in the lake is at Winter level, and four when at Summer level. The top of the wall is to be three feet above the Summer level of the lake.

LULLWOOD BRIDGE.

This bridge carries the main walk over the Lullwater, and is to have a clear span of about thirty feet, with two side spans of thirteen feet each. The height from the surface of the water at Summer level to the under side of the bridge will be seven feet, to permit the free passage of boats in Summer, and skaters in Winter. The foundation for the piers and abutments have been laid, and the walls completed with the exception of the capstones.

DAIRY HOUSE.

A stone dairy house has been commenced, and the walls carried up ready for the plates and roof. The outer walls are of broken Ashlar masonry, formed of small sized stones, obtained by breaking boulders found on the park. The trimmings are of mountain Graywacke and Ohio stone. The interior walls are of brick, and are finished.

WALKS.

The greater portion of the walks made during the year have been surfaced of pine tar concrete, laid under a contract with the Fiske Patent Pavement Flagging Company. The cost for preparing the substructure for the tar walks has been materially reduced this season, as the concrete was laid upon the natural soil, wherever it was of tolerably porous material. In sections where a clayey or retentive

material was found, this was removed to a depth of six inches, and replaced with gravel or sand. All of the tar walks laid last year have proved satisfactory in all respects. They have not been injuriously affected either by heat or cold, and the expense of maintenance has been very slight, for the surfaces have not required renewal, rolling or sprinkling. The heaviest rains have not damaged them in the slightest degree.

The surface water as it flows from these walks into the silt basins, carries no sediment with it, and this incidentally produces a great saving of expense in the care of silt basins and sewerage systems, as so much less material has to be removed from them. The walks made last year which were surfaced with fine screenings from the McAdam stone, did not prove satisfactory, as the smaller particles washed away, leaving the larger and angular fragments on the surface, and these were unpleasant to walk upon. The gravel walks laid this season were surfaced with Roa Hook gravel, in all other respects they were made like the stone-dust walks of last year.

THE LAKE.

Work upon the lake has been vigorously prosecuted during the season, and all of the portion above the great concourse, comprising more than twelve acres of water surface, has been completed. The bottom of the lake, over almost the entire area excavated, is composed of coarse sand or gravel, than which nothing can be more unsuitable for retaining water. The drainings from the park surface nearly all tend towards the lake, and at times, during the progress of the excavation, the water from heavy storms accumulated to a depth of from one to two feet, but owing to the exceeding porous nature of the bottom, the entire quantity filtered away in a few hours. There being no natural supply of water on the park except surface drainage, it became a matter of vital importance to make an artificial bottom to the lake, which should be as nearly impervious to water as possible. This was done as follows: the excavation was carried to a depth of one foot below the final bottom of the lake, and a layer six inches in thickness of stiff clayey loam was laid on evenly, and carted over and otherwise worked, without special care; upon this was laid six inches of blue clay of very fair quality, as it was found in the pit, without other mixture with sand and gravel. This layer of clay was thoroughly wet, and carefully cut and worked over with shovels, care being taken to have the water and working reach the lower layer of clayey loam. The puddling on the slopes of the

lake was protected from the action of the sun during the progress of the work, by a layer of gravel and stone three inches thick. These will also protect the slopes from the action of the waves in Summer. The slopes of the main lake are made with an inclination of one foot vertical to five feet horizontal. The puddling on the bottom of the lake was covered with water as it was laid, and thus protected from injury by the sun.

The clayey loam which was used for the lower layer of the puddle was found in great abundance over nearly the entire area to be occupied by the lake, just beneath the surface soil. The blue clay used was found in the Hart range, and is a remarkable deposit. A search was made by borings on all portions of the park where clay was likely to be found, and at this point it was discovered about three feet below the surface. This covering was removed, and the excavation of the clay carried to a depth of twenty-three feet before the bottom of the deposit was reached. Immediately below the clay is a mass of boulders, which rest upon a bed of sand. Over seven thousand yards of clay have been taken from this deposit, and the indications are that a large quantity still remains.

A temporary dam, with proper weirs, was constructed at the lower end of the completed lake, and the drainage waters of the park, from the fall rains, soon filled the lake to a depth of three feet. From careful daily observations of the water level it has been ascertained that the leakage is so slight as to indicate that the method of puddling adopted is entirely successful.

Two of the Hart Beck pools have been completed, with proper masonry dams, which are covered with rock work. The puddling of these pools consists of but six inches of clay, as the bottoms were of a clayey character. The slopes of the pools are generally three feet horizontal to one foot vertical.

AGRICULTURAL DRAINAGE.

But little agricultural drainage has been laid during the season. That laid last year has, almost without exception, proved very efficacious, and is generally in good working order.

WATER SUPPLIES.

The water distribution system has been extended by continuing the six inch main around the lake toward Franklin avenue, and the twelve inch main in the direction of Fifteenth street. The patent cement pipe is still used, and that which was laid last year is in good condition, and requires no repairs.

It is proposed to obtain a supply of water for the park use, or at least a partial supply, from a well. This well has been located on the south side of Lookout Hill, near the lake, and work was commenced upon it late in the season. It is to be fifty feet inside diameter at the bottom, and forty-five at the top. The walls are to be of brick, two feet thick, and bound together vertically by bolts extending from the bottom to the top, at distances of about four feet apart, measured on the circumference of the circle. After a careful consideration of various methods for sinking the well, it was decided to build the wall, and then to excavate the material from within, trusting to the weight of the wall to force it down. Sixteen feet in height of the wall was laid securely bolted together, before the excavation was commenced. A derrick with a boom fifty-five in length was set up near the well, so that the sweep of the boom commanded the interior of it. Iron buckets containing fourteen cubic feet each were obtained, and a six-horse power hoisting engine purchased. With these appliances the excavation was commenced, and carried on with slight interruption until the work was suspended on account of the frost.

No difficulty was experienced in the lowering of the wall. All that was necessary was to excavate the material from beneath it, and it was carried down by its own weight. Great care was necessary in lowering to keep the excavation under the walls at the same level, so that the wall should settle uniformly. The wall was lowered forty-one feet before the work was suspended, and upon excavating in the center ten feet deeper, water was reached, at an elevation of fourteen feet above tide level, and fifty-one feet from the surface of the ground. Mr. L. Y. Schermerhorn, division engineer, gave the work his careful attention, and to his good judgment and intelligent supervision the success of the work, thus far, is in a great measure due.

SKATING.

As before stated, the lake was partially filled with water in November. Early in December, much earlier than usual, ice formed, and up to the present time has been in good condition for skating. The Union Pond Patent Ice Planers have been used for planing the ice, and, so far as my observation extends, these planers, with the accompanying snow cleaners, are the most efficient implements for the care of ice that have as yet been invented. Cuttings of any required depth can be taken, limited only by the propelling power, and the surface is left nearly as smooth as new frozen ice.

A temporary skating house has been erected one hundred and sixty-eight feet long, and twenty-eight feet wide, with a platform in front sixteen feet wide. This was placed over the water, and is supported by stone piers.

WASHINGTON PARK.

The improvement of this park having been authorized, work was commenced in June, and was prosecuted with considerable energy until it was suspended on account of frost. The following items are the most important so far executed. The Gant has been graded and paved with coal tar concrete. The Artillery road has been graded and paved nearly its entire length, and since both of these are liable to be used for horses, the paving was made four inches in thickness. The walks were paved with the same material, but like those on Prospect Park, the material was laid only three inches thick, These walks are made without side gutters. The depression is in the middle, and the silt basins and gratings are also in the middle. The shaping of the grounds and the re-arrangement of the trees has progressed as rapidly as possible with the force employed. The work has been under the immediate charge of Mr. T. P. Kinsley, division engineer, who, with his corps of able assistants, have performed their duties in a very creditable manner.

Mr. F. Mollard has been general superintendent of labor, and has evinced good executive qualities.

I am happy to be able to state that the same interest in the work which existed last year, still continues undiminished, and the same harmony of action throughout the park organization remains unbroken.

Messrs. Culyer and Bogart still continue to be the same competent and efficient aids as heretofore, and leave nothing to be desired in the management of their respective departments.

Mr. John McGuire, as General Foreman of the Labor Department, has discharged the duties of his responsible position with great credit to himself, and to my entire satisfaction.

C. C. MARTIN,

Engineer in Charge.

REPORT OF JOHN BOGART,

ASSISTANT ENGINEER IN CHARGE.

PARK COMMISSION, CITY OF BROOKLYN,
ENGINEER'S OFFICE, *January* 1*st*, 1869.

C. C. MARTIN, Esq.,
Engineer in Charge.

Sir:—I submit herewith the following tables, showing the amount of work done upon the park during the past year, and also the total amount done up to January 1st, 1869.

DRIVES.

Drives finished,	125	feet wide,	(Plaza).....	2,167	lin. ft.
" "	60	"	(Park).....	379	"
" "	50	"	"	1,657	"
" "	46	"	"	1,100	"
" "	40	"	"	6,425	"
" "	30	"	"	1,500	"
" "	23	"	"	1,550	"
" "	50	"	(Franklin avenue) ...	1,860	"
Total length of drives finished.....				16,638	"
				or $3\frac{15}{100}$	miles.

Drives in progress	60	feet wide.....		75	lin. ft.
" "	50	"		200	"
" "	46	"		1,400	"
" "	40	"		2,535	"
" "	20	"		115	"
Total.....				4,325	"
				or $0\frac{82}{100}$	miles.

RIDES.

Rides finished	20	feet wide	1,575	lin. ft.
" "	16	"	625	"
" "	15	"	950	"
" "	8	"	600	"
		Total	3,750	"
			or $0\frac{71}{100}$	miles.
Rides in progress	20	feet wide	3,800	lin. ft.
			or $0\frac{72}{100}$	miles.

WALKS.

Walks finished,	129	feet wide	181	lin. ft.
" "	20	"	408	"
" "	16	"	8,345	"
" "	14	"	400	"
" "	12	"	4,803	"
" "	10	"	580	"
" "	8	"	275	"
" "	360	" (Fort Greene)	207	"
" "	16	" "	570	"
" "	14	" "	1,700	"
" "	12	" "	277	"
" "	8	" (Carroll Park.)	2,275	"
			20,021	"
			or $3\frac{79}{100}$	miles.
Walks in progress	129	feet wide	38	lin. ft.
" "	30	"	3,726	"
" "	25	"	1,055	"
" "	20	"	5,812	"
" "	16	"	7,625	"
" "	12	"	4,170	"
" "	10	"	775	"
" "	360	" (Fort Greene)	273	"
" "	16	" "	150	"
" "	14	" "	1,400	"
" "	12	" "	933	"
		Total	25,957	"
			or $4\frac{92}{100}$	miles.

DRAINAGE.

	During 1868.	Total to Jan. 1, 1869.
18 inch Vitrified pipe laid, lin. ft.....	983	1,572
15 " " " "	1,223	6,279
12 " " " "	676	6,466
10 " " " "	436	925
8 " " " "	2,830	6,168
7 " " " "	85	305
6 " " " "	4,826	10,235
5 " " " "	360	1,112
4 " " " "	1,448	2,215
$2\frac{1}{2}$ " " " "		675
10 " " " " (Fort Green)	83	83
8 " " " " "	448	448
6 " " " " "	1,632	1,632
5 " " " " "	757	757
4 " " " " "	1,066	1,066
6 " " " " (Carroll Pk.)	97	97
4 " " " " "	310	310
6 " Cement " " "		142
Totals.....	17,260	40,487
	or $3\frac{27}{100}$ m'ls.	$7\frac{67}{100}$ miles.

Tile pipe laid 3 inch, lin. ft.....	2,181	16,869
" " $2\frac{1}{2}$ " "		25
" " 2 " "	8,153	22,651
" " $1\frac{1}{2}$ " "	840	6,720
Totals.....	11,174	46,265
	or $2\frac{12}{100}$ m'ls.	$8\frac{76}{100}$ miles.

WATER DISTRIBUTION.

Wrought iron and cement pipe 16 inch.....	3,023 lin. ft.
" " " 12 "	2,183 "
" " " 6 "	4,586 "
" " " 4 "	2,010 "
Total.....	11,802 "
	or $2\frac{24}{100}$ miles.

Cast iron pipe 20 inch	347	lin. ft.
" " 16 "	29	"
" " 8 "	180	"
" " 6 "	43	"
" " 1 "	1,427	"
Total	2,026	"
	or $3\frac{84}{100}$	miles.

Blow-offs and branches	41
Stop-cocks	24
Hydrants	20
Reducers	3
Metres	2

AREA OF OPERATIONS UP TO JANUARY 1ST, 1869.

Area worked over up to January 1st, 1869	302	acres.
" " " 1st, 1868	254	"
Area of surface finished, meadows and slopes	109	"
" " woodland	31	"
" " water surfaces	$12\frac{1}{2}$	"
" " roads and walks	$26\frac{1}{2}$	"
Total	179	"
Area of surface seeded	128	acres.

MASONRY.

Amount of brick masonry	1,766	cu. yds.
" concrete for do	67	"
" stone masonry	2,868	"
" concrete for do	593	"
" stone dressed for arches and buildings	974	"
" " steps	952	lin. ft.
" curb stone dressed	21,269	"
" " laid	45,556	"
" Belgian pavement laid	293,562	"
" cobble " "	47,516	"

AMOUNT OF STONE BROKEN.

McAdam stone by stone breaker	8,848	cu. yds.
Telford " hand	6,627	"
Spall " "	11,437	"
Total	26,912	"

MATERIAL MOVED.

		During 1868.	Total to Jan. 1st, 1869.
For grading and shaping drives, bridle-roads, walks, meadows, and slopes	Cub. yds.	52,247	271,526
For lakes, pools, and streams	"	218,309	354,922
For Plaza	"	2,000	172,355
For sewers and drains	"	14,074	53,164
Soil	"	80,535	330,012
Peat	"	1,281	46,020
Clay	"	3,038	27,876
Manures and compost	"	14,613	25,400
Stone	"	11,749	63,961
Gravel and sand	"	53,287	60,220
Miscellaneous	"	893	14,624
Total cubic yards		452,026	1,420,080

ENGINEER CORPS.

The general organization of the Engineer Corps remains as during previous years. The Assistant Engineers, Mr. Wilson Crosby, Mr. James C. Aldrich, and Mr. L. Y. Schermerhorn, with Mr. T. P. Kinsley at Fort Greene, during the progress of that work, have been constantly and actively employed, and have given careful and valuable service, and the corps generally has performed its duties with energy and ability.

Accompanying this report will be found a map showing the general progress of the work; a map showing the drainage system as executed, and a map showing the water distribution, as far as completed.

Respectfully submitted,

JOHN BOGART,

Assistant Engineer in Charge.

PRUNING LADDER

USED IN THE PARK.

REPORT OF JOHN Y. CUYLER,

ASSISTANT ENGINEER IN CHARGE.

PARK COMMISSION, CITY OF BROOKLYN,
ENGINEER'S OFFICE, January 1st, 1869.

C. C. MARTIN, Esq.,
Engineer in Charge.

Sir: The following is a report of means and materials employed in the construction of the park during the year ending December 31st, 1868, together with the usual statistics for the same period.

FORCE.

During the early part of the year, the main body of the force was employed in the lake district, a part was engaged in stone-breaking, and one gang in taking out peat in the pigeon ground. This work having been prepared with special reference to providing employment for the Winter, was carried on economically, and continued to the opening of Spring, keeping at work during the severe months of January, February and March, an average of 755 men. On the disappearance of frost, the area of operations being considerably enlarged, the force was increased to 1,215 men during the month of April.

The following statement will show the average number of employed force during the several months of the year, together with a comparative table for preceding corresponding years:

Statement showing the average number of employed force for the months and years noted.

Active operations commenced on the park in the latter part of the month of June, 1866.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1866.....	.....	.....	.....	.....	.....	300	325	450	550	620	700	725
1867.....	700	630	410	800	1000	1150	1200	1525	1750	1825	1800	1100
1868.....	944	812	508	1215	1047	1189	1095	1090	1116	1118	1167	912

There were two hundred and ninety-seven days, during which the main part of the force was employed. The largest number of men employed at any one time was in the month of April, viz.: 1,392 as against 1,840 for the preceding year.

The statements of force are made up from observations of the actual number of men at work daily, throughout the year on the park.

The improvement of Washington Park was begun June 1st, 1868, with a force consisting of two gangs. About the 1st of August another gang was added, and work continued thus till the close of the season, giving employment to an average of 120 men. There were 175 working days from June 1st to December 31st.

ORGANIZATION.

The form of organization remains as previously roported. Changes are of frequent occurence, consequent upon the development of incapacity to discharge the duties required, on the part of men who have sought employment either as foremen, assistants or laborers. It has been made the duty of Engineers of Division and the general foremen to establish, wherever classes of work admit of it, standards for comparing day's works, with the view to derive the largest amount of labor from men receiving a given amount of wages, and the standards thus established have resulted profitably. The force of stone-cutters, masons, bricklayers, carpenters and blacksmiths was largely augmented, in consequence of the development and progress of archways, and other constructions requiring mechanics' labor.

DISCIPLINE.

The following abstract shows the promotions, suspensions and discharges which have occurred during the year:

PROMOTIONS.

Promotions from laborers to assistant foremen	1
Promotions from assistant foremen to foremen	4
Promotions from foremen to assistant general foremen	1
Promotions from assistant general foremen to general foremen	1

There were five resignations of foremen and assistants, and three deaths.

SUSPENSIONS.

Number of foremen suspended for breach of discipline	15
Number of assistant foremen suspended for breach of discipline	10
Number of laborers suspended for breach of discipline	145

DISCHARGES.

Number of foremen discharged for disobedience of orders and neglect of duty	3
Number of foremen discharged for inefficiency	3
Number of assistant foremen discharged for inefficiency	9
Number of assistant foremen discharged for other offences	3
Number of laborers, &c., discharged for neglect of duty and inefficiency	327
Number of men discharged for intoxication	10

ACCIDENTS, &c.

During the year five men were injured by falling of banks of earth, and in the severe heat of the Summer season several sunstrokes occurred, resulting fatally only in one case, owing to the fact that remedies and proper attention were promptly provided by the foremen and keepers, in accordance with printed instructions.

KEEPERS AND THE PUBLIC USE OF THE PARKS.

This branch of the force has remained substantially the same as noted in the report for 1867. Several minor modifications in rank have occurred, and the scope of duties has in some instances been

enlarged in accordance with the intentions of the scheme of organization, and to meet the requirements incident to the growing use of the park by the public.

An extended stretch of drive has come into use during the past season, together with walks, bridle-roads, and woodland, the latter having been particularly attractive to out-door gatherings, and these have added much to the demand made upon the keepers' force.

The several minor parks throughout the city, under the charge of the Commission, have each required a certain amount of surveillance. In addition to what might be ordinarily considered the proper duties of an organization of this nature, it must be remembered that a considerable amount of labor is involved in the necessity existing of constant vigilance and close observation over the property of the Commission, scattered as it is over all points on the work.

The force consists of—

Two head keepers, One station officer,
Six wardens, Sixteen rangers,
And twenty-four post keepers.

As heretofore, in cases of absence of regular members, or in cases of emergency requiring increased numbers, the force has been augmented by detailed men from the gardening force, selected with special reference to their fitness to do the required duty.

Thirty-seven arrests were made during the year, of which the following is a summary account:

PROSPECT PARK.

For fast driving	5	
For stealing	2	
For insulting visitors	2	
For interfering with keepers	4	
For disorderly conduct	18	
Insane persons	2	33

WASHINGTON PARK.

For assault	1	
For disorderly conduct	3	4
Total		37

These cases have been in most instances promptly acted upon by the several magistrates before whom they have been taken.

The trouble and annoyance heretofore attending the running at large of animals of all kinds, belonging to persons living in the neighborhood of the park, has been almost entirely abated since the establishment of a pound under the jurisdiction of the Commission. Two hundred and fifty animals, including horses, cows, goats, calves, and hogs, have been impounded and redeemed by their owners, or sold to pay expenses, during the year.

The number of visitors to the park has been very largely increased. The following tables of persons entering the park have been made up from daily records at the several entrances. The visitors generally recognize the necessity for a close observance of the rules, and show a desire to cooperate with the keepers in maintaining order.

STATEMENT SHOWING THE NUMBER OF VISITORS TO PROSPECT PARK DURING THE YEAR 1868.

1868.	Vehicles.	Equestrians.	Pedestrians.	Total Visitors.
January	11,440	1,301	62,012	*94,443
February	16,476	510	42,504	90,982
March	16,085	3,304	27,281	75,933
April	19,089	5,287	25,942	88,502
May	38,871	7,623	69,478	194,457
June	65,485	8,825	102,544	308,988
July	52,877	5,214	98,967	266,821
August	51,133	6,369	117,425	277,193
September	37,349	4,863	60,322	177,242
October	49,684	8,329	72,325	229,942
November	44,909	10,113	44,027	188,247
December	18,200	3,180	86,056	144,042
Totals	421,598	64,918	808,893	2,136,342

The largest number of visitors entering the park in any one day was 51,201, on May 31st, 1868. 690,106 persons visited the park on Sundays. It is also noticeable that 64,918 equestrians have made use of the park during the year.

* It is estimated that each vehicle will average three persons.

In the month of May of this year, the West Woods were thrown open to the public as a picnic ground, subject to established regulations for their use. Scups and swings were placed about the woods, together with tables and seats, for the pleasure and convenience of these gatherings. A temporary waiting-room was put up on the grounds for the convenience of women and children.

During the ensuing season, over 75 picnic parties, numbering from 100 to 500 persons, under the auspices of churches, Sunday-schools, and other societies, made use of these grounds.

SKATING.

The first skating season was inaugurated on Saturday, January 11th, and, with the exception of five days (January 21st, 22d, 23d, 24th, and 27th), was uninterrupted until its close, on Saturday, March 11th—forty-four days. The pond covered an area of between four and five acres, with suitable accommodations for the public.

The second season commenced on Saturday, December 12th, and and, with the exception of two days (December 17th and 21st), continued until the 31st of December, as late a day as this report is intended to cover, giving a total of sixty-two skating days for the year.

The skating area has been enlarged from four and a half to twelve acres, with increased accommodations for the public use. During the skating season of 1868, over 200,000 persons visited the pond. The number of visitors to the pond on Christmas day was 21,000.

MISCELLANEOUS STATISTICS.

During the summer season two temporary places for refreshment were provided on the park. One of these was located in the East Woods, and the other and larger one in the West Woods or pic-nic grounds.

Twenty-four drinking stations were provided during the warm weather, to which cool water was constantly supplied by water carts. Temporary water closets were established in three localities. Nine large swings and twenty-one small scups were placed about the East and West Woods, at convenient points for the use of the public.

During the year, 103 park seats of iron and wood, 7 feet long; 45 park seats of iron and wood, 5 feet long, and 60 park seats of iron and wood, 4 feet long, have been placed about the park; also 13 tables, 12 feet long by 3 feet wide, each, and 24 camp stools, for the use of pic-nic gatherings. One rustic thatched roof summer house and one vinery, 32 settees and 46 bird-houses have been made during the year.

CARROLL PARK.

Two lodges have been erected. One ornamental flag-staff, a fixed frame swing, fifty-two park seats of iron and wood were placed at convenient points about the park. One hundred and fifty bird-houses for the use of the sparrows were put up in the trees.

SUPPLIES.

The usual annual statement herewith annexed comprehends under its different divisions the receipts and issues of supplies, together with the stock on hand. This statement shows the material, &c., received each year, and the aggregate of each article to January 1st, 1869.

TOOLS, IMPLEMENTS AND MACHINERY.

At this season of the year, all tools, implements, &c., not needed for use are collected and stored under cover, and are overhauled and put into serviceable condition for spring work. Derricks, gearing, trucks, &c., are painted, impaired iron and wood work replaced and stored under cover until needed.

TREES AND SHRUBS.

The following statement shows the number of deciduous trees, shrubs, evergreens, &c., purchased during the year; also the stock of the same in the nursery, together with quantities planted during the year:

STATEMENT SHOWING THE NUMBER OF TREES, SHRUBS, ETC., RECEIVED DURING THE YEAR ENDING DECEMBER 31ST, 1861.

Trees.	Shrubs.	Evergreens.	Vines.	Ferns.	Herbaceous Plants.	Wild Shrubs.
9,637	56,335	20,713	2,256	1,900	291	15,252

3,500 to 4,000 creeping vines (Periwinkle); about 5,000 wild trees and shrubs were selected and removed from the commons west of the office.

STOCK IN NURSERY, DECEMBER 31ST, 1868.

Deciduous Trees.	Evergreens.	Deciduous Shrubs.	Vines.	Aggregate.
17,546	29,720	63,850	4,953	116,069

STATEMENT SHOWING THE NUMBER OF TREES, SHRUBS, ETC., PLANTED DURING THE YEAR.

Deciduous Trees.	Evergreens.	Deciduous Shrubs.	Vines.	Herbaceous Plants.	Ferns.	Total.
2,881	2,184	16,558	3,498	3,264	1,530	29,913

FERTILIZING MATERIALS.

The following quantities of manure, night soil and fertilizing materials have been received and are on hand:

2,021 two horse loads of horse manure, (1,454 loads of this have been received under contract, from the several City R. R. stables.)
753 loads of night soil, (used in composting.)
661 bbls. of fish offal.
21,427 lbs. of super phosphate of lime.
700 bushels of shell lime.
275 loads of lime, (mixed with peat.)

Quantities of compost on hand:

PROSPECT PARK.

Stable manure, compost	4,480	cubic yards.
Night soil "	3,220	"
Fish "	835	"
Peat and lime "	15,570	"

WASHINGTON PARK.

Stable manure, compost	875	cubic yards.

TREE MOVING MACHINE. PROSPECT PARK.

SIDE ELEVATION.

Of the large quantity of dimension stone ordered during the year, the greater part is for bridge A and F, (incomplete at this time), and is now on hand. Bridge A is to be built of Ohio sandstone, all of which is on hand and in process of cutting. Bridge F is of Ohio stone and Quincey granite. The Ohio stone is on hand, and cutting nearly complete. The granite is mainly delivered and in process of cutting. Suitable quantities of brick and cement were purchased before the close of the year, ready for early spring work on these structures.

JOHN Y. CULYER,
Assistant Engineer in Charge.

SHELTER PROPOSED TO BE ERECTED ON THE CARRIAGE CONCOURSE.

PROSPECT PARK

TENTH ANNUAL REPORT

OF THE

COMMISSIONERS OF PROSPECT PARK.

JANUARY, 1870.

COMMISSIONERS.

JAMES S. T. STRANAHAN,
WALTER S. GRIFFITH,
JOHN H. PRENTICE,
EDWARDS W. FISKE,
WILLIAM MARSHALL,
ABIEL A. LOW,
SEYMOUR L. HUSTED,
ABRAHAM B. BAYLIS,
STEPHEN HAYNES,
ISAAC VAN ANDEN,
MARTIN KALBFLEISCH, *Ex off.*

PRESIDENT.

JAMES S. T. STRANAHAN.

SECRETARY.

JOHN H. PRENTICE.

COMPTROLLER AND COUNSEL.

JOHN N. TAYLOR.

LANDSCAPE ARCHITECTS AND SUPERINTENDENTS.

OLMSTED, VAUX & CO.

ENGINEER IN CHARGE.

CHARLES C. MARTIN.

ASSISTANT ENGINEERS IN CHARGE.

JOHN BOGART,
JOHN Y. CULYER.

TENTH ANNUAL REPORT

OF THE

COMMISSIONERS OF PROSPECT PARK.

To the Honorable the Mayor and Common Council of the City of Brooklyn:

The Brooklyn Park Commissioners respectfully submit to the Common Council of the city this report of their proceedings for the year 1869, with a statement of their receipts and expenditures for the same period.

Their last report referred to the proceedings of Commissioners who had recently been appointed by the Supreme Court to estimate the value of land added to Prospect Park at its western angle, and suggested the hope that their forthcoming report on damages would be of such a character as to justify the board in asking the Supreme Court to ratify and confirm the same. The report was soon afterwards presented to the board, and awarded to the owners of land the damages sustained by them, amounting in the whole to one million seven hundred and five thousand two hundred and forty-eight dollars and thirty-two cents. This amount, however, included the expense of the proceedings, together with the expense of the subsequent proceedings to assess property adjacent to the park for special benefit, which yet remains to be done. Although the estimate seemed large when compared with former prices, it was the result of a fair and impartial examination of the claims of the parties in interest, made by five of our most judicious and reliable citizens; and there was no question that the property had been greatly increased in value by its immediate contiguity to the park, during the time that its acquisition had been unfor-

tunately delayed by legislative inaction. The board also considered the great importance, if not the absolute necessity, of this addition to the park, and did not therefore hesitate to accept the report of the Commissioners, and apply to the court for its confirmation. The bonds authorized by law were at once issued by the city authorities, and met with a ready sale. The awards for land taken were promptly paid, and the board forthwith entered into possession of the premises. In an artistic point of view this acquisition fully justifies the high expectations of its value originally entertained by the board. And if we are to judge from the unqualified expressions of admiration with which the subsequent opening of the drive through these beautifully wooded and picturesque grounds has been greeted, the board are well assured that public sentiment entirely approves of their action in this behalf.

The same Commissioners are now rapidly proceeding with the assessment which the law directs them to make upon property specially benefited by the opening of the park. And the board have reason to expect that when that Commission shall have finished their work, and their assessment collected, park indebtedness will have been very largely diminished. It is but justice to the Assessment Commissioners to add that they are engaged in an arduous and important work; that their operations extend over a large district of country, and that they have been prevented by the terms of the law from commencing their labors until after the confirmation of the last report on land taken for park extension.

The Commissioners were much pleased to find that the subject of laying out streets and avenues through the County of Kings, so as to conform, as nearly as may be practicable and judicious, to the streets and avenues of our city, to which subject they have repeatedly called the attention of the Common Council, was acted upon by the Legislature at its last session. The present supervisors of the county towns, in conjunction with the President of the Board of Supervisors, were appointed a Board of Commissioners for the purpose of maturing a permanent plan of improvement. That board have since appointed an experienced surveyor to make the requisite examinations, and to prepare a map of the streets and avenues upon a plan

suggested by them; and it is understood that the result of their labors will soon be submitted to public inspection.

One of the most striking features of the new plan, bearing directly upon the interests of the park, and of our city, will be found to be a noble avenue, two hundred and ten feet wide, stretching southerly from Prospect Park towards Coney Island, but terminating for the present at the newly established Fair Grounds. This avenue will form another grand approach to the park, and is to be laid out under the liberal auspices of the owners of the land through which it passes, at their own expense, and has been placed under the control and management of the Park Commissioners.

This splendid improvement is similar to that which was formerly suggested by the board on the line of Sackett street, as a suitable approach to the park from the east, and will soon be thrown open to public use; and when properly regulated, planted with shade trees, and extended to the ocean, terminating in a broad terrace upon the beach as it must eventually do, will form a most attractive sea-side promenade and drive.

The enterprise of our neighbors has also placed another fine improvement in the hands of the Park Commissioners, which consists in the widening of the Coney Island road to the width of one hundred feet, thereby opening up a direct avenue to the sea, and at the same time throwing open to the public another opportunity of selecting sites for suburban residence unequaled for beauty of situation, for salubrity of air, and for convenient access to business centers by any locality on the island.

By means of these and of other kindred improvements connected with park extension, in which the board have been engaged, land throughout the County of Kings has greatly increased in value, the taxable property in the rural districts having been nearly doubled during the last four years. While we rejoice with our friends in the country towns that they are the fortunate possessors of such valuable property, we heartily congratulate our citizens at large upon the splendid opportunities of improvement which are about to be thrown open to them. It is thus, in connection with those magnificent enterprises of bridging and tunneling the East River, which have already engaged the attention of the Common Council, that the board expect to realize those broad plans of public improve-

ment which they have from time to time suggested, by their annual reports and otherwise, as opportunity presented; and it is thus that they hope to establish for Brooklyn that reputation which she justly merits, of a highly favored quarter of the great metropolis of this Western world, possessing superior natural advantages in many respects over her more wealthy neighbor, but particularly as a healthful and desirable place of residence for her men of business.

The success of our park enterprise, now so generally admitted, is believed to have contributed largely to the production of the increased values to which the Commissioners have referred. On reference to the assessment rolls of the city's property, they find that since the commencement of active operations on the park, there has been added to her tax list the large amount of $77,232,410, the Board of Assessors having felt themselves justified by its very obvious increase in adding 25 per cent. to the list of her taxable property for the year 1869. The amount of such property is now $196,624,110, while in the rural districts it is $11,808,933, making the total amount now standing on the assessor's books, $208,433,043, nearly two-fifths thereof having been added since the period above referred to. It should be observed, also, in order to a proper appreciation of these facts, that a large portion of this increase, to wit: the sum of $32,820,059, has arisen in the wards immediately surrounding the park, including the town of Flatbush, thereby increasing the city's annual income nearly a million of dollars.

The rapid increase of our population, as well as the number of houses built for their accommodation, fully sustains the action of the assessors. During the time referred to, our city has trebled its former annual rate of house building, and she has actually erected nearly one-half more houses within the last three years than were built in the city of New York. That our territorial expansion corresponds therewith appears from the many miles of new streets opened, graded and paved within the past year, while more than eight additional miles of re-pavement, having an improved surface which supersedes the old fashioned cobble stone pavement, has opened up several direct and easy approaches to the park. The population of our city, also, according to the statistics of the past forty years, has been found to double in rather less than twelve years, the

increase of New York being at about one-half that rate; so that, unless New York shall speedily absorb all the southern towns of Westchester, or unless some unforeseen check shall be given to our progress, we must expect to gain yearly upon her until we shall become the larger of the two cities, an event which, in the ordinary course of things, must occur before the close of the present century. Such a demand upon the respiratory and sanitary resources of our city has never yet occurred in the history of any people, and should convince us of the immense importance of securing parks and open planted spaces of every description in advance, and wherever it may be practicable, as lungs for this great population.

But the question with which our city, as a municipality, is more immediately concerned, at this time, is not so much the numerical increase of her population as its character, chiefly in reference to its ability to pay taxes and make the improvements we require. One of the chief difficulties under which we have labored, and still do labor, consists in the comparatively low valuation of our property. A house on 2,500 square feet of ground, worth perhaps only a thousand dollars, costs as much for the repair of streets, for lamps, police, and the other machinery of city government, as the house paying taxes on $20,000. Our constant aim, therefore, should be to increase these valuations, by holding out such inducements to men of wealth and taste, in the way of improved streets, increased park accommodations and other social advantages, as will make Brooklyn a more desirable place of residence for them than any other city.

It will be remembered that the present Park Commissioners, with two or three exceptions, were appointed in 1864. Upon their accession to office, they found that a fresh impetus had been everywhere given to park enterprise by the liberal views then recently adopted for laying out large parks in New York, Philadelphia and Baltimore; and our city's need of a first-class park could no longer be satisfied with the very moderate dimensions assigned to Prospect Park by the law of 1860. This necessarily led to a review of the whole subject of boundaries, including various questions of entries and approaches, as necessarily connected therewith. The plan of improvement also, as originally suggested, for reasons which do not now re-

quire any detailed statement, failed to receive the approval of the reorganized board. No principal entrance, or none suited to the dignity of a large park, had been provided, and they deemed it proper, therefore, to apply to the Legislature at once for authority to annex so much additional land as was necessary to form what now constitutes the Plaza.

Nor upon the question of boundaries could they satisfy themselves that the ground which had been taken was all that was required in respect to extent or opportunity of improvement, and least of all that the land on the east side of Flatbush avenue, in consequence mainly of its isolated and disjointed character, could be made to harmonize in any tolerable degree with the fine park land on the other side. They consequently proceeded to mature a plan which they thought better suited to the character of a first-class park, which added very considerably to the dimensions of the original plan, but extended it in a direction in which land was cheapest, and fortunately best adapted to park purposes, while it took nothing from our own taxable property. Their report upon this plan, with a full explanation of its details, and a map showing the contemplated change of boundaries, with the proposed abandonment for park uses of the land east of Flatbush avenue, was thereupon printed and extensively circulated throughout the community, and received a very decided and unqualified approval. And the Commissioners here deem it worthy of notice in passing, that the map annexed to that report is the same design, without material alteration or addition, upon which the engineers of the board have been working from the beginning of their operations, and upon which they still continue to work.

Being satisfied with the favorable expression of public opinion thus obtained, the Commissioners applied to the Legislature for the additional territory required to carry out their enlarged plan of improvement, at the same time asking for authority to sell so much of the land on the east side of Flatbush avenue as was not embraced in the plan, in order that they might have means to pay for what they proposed to annex on the other side. They obtained a portion of the land required, but, much to their regret, were refused the fifty acres referred to in a former part of this report, and which constituted one of the prominent features of their design. Their re-

quest for permission to sell was also denied, although it had received the approval of the Senate, and is believed to have influenced that body in the passage of the bill for park extension, which was acted upon by them on the same day.

After park areas had been thus far extended, the Commissioners, hoping that the residue of the land required to carry out the improved plan would yet be conceded to them, deemed it expedient to commence the improvement. They began upon that part of the ground which was originally selected for a park, and where their expenditures had been limited in amount; but it proved to be the most difficult, and consequently the most expensive to operate upon. Among other difficulties, it became necessary to accommodate the park grades to those established for the surrounding streets of the city, which grades had recently been much reduced; and the transformation of the ground to meet these changes could only be accomplished at very considerable expense. The Commissioners, however, believe that the expenditure is not to be regretted, and they take this opportunity of expressing the opinion that the style and finish with which this as well as other park improvements have been executed have had much to do with the great increase of values to which they have above referred. It was not so much the fact that Brooklyn was to have a large park, as it was the discovery, that her park was to possess an artistic beauty and finish equal to any park extant, which was to sustain her in her competition with the parks of other cities.

The Commissioners have claimed for Brooklyn the advantage of being a more desirable place of residence in many respects than New York, and they think it can be readily shown that she possesses finer sites for city residences, in connection with the refined enjoyments of a park, than can be found in that city. She has even now under her own control a district of country, east of Flatbush avenue, in the highest degree attractive, and which, if properly improved, would open up another large district southerly and easterly therefrom, to the immense advantage of our city, both socially and financially. But in order to develop these advantages fully, they think it will be necessary to revise the whole street plan of this quarter of the city while it is yet under easy municipal control, and to lay it out anew in such a way as will not only be much more

convenient and useful to the public than it would be under any other plan yet suggested, but must make it perfectly apparent that we have in Brooklyn, in close connection with our park, more desirable places of residence than can be found elsewhere in any city. The lower portion of the map which is annexed to this report will further explain this last suggestion of the Commissioners, while it also indicates the location and extent of land which they propose to sell.

If sold, it would of course be with proper restrictions in regard to the character of the improvements to be made upon it, and with suitable reservations of streets and avenues. The Commissioners intend to reserve, besides the avenues which they propose to lay out with wide planted borders, and the reservoir ground, with an ornamental garden around it, a body of land two hundred and sixty feet in depth fronting the park, to be held by the city as a site for public buildings and institutions, as stated in their last annual report.

They do not propose to interrupt, but to improve and amplify all the direct lines of communication through the district east of the park, retaining for park purposes every foot of land from which a view of the bay or of the sea can be had. But after making all these reservations, there will still remain a body of over one hundred acres of land to be disposed of with such restrictions as will insure the erection upon it of strictly first class dwelling houses. A former report estimated the proceeds of such sale at two and a half millions of dollars, but the Commissioners are advised that their estimate was too low by at least half a million of dollars. If to this is added a million for its improvement when retained as a park, which the experience of the Commissioners in dealing with ground of a similar character on the other side of the avenue induces them to believe would be a fair estimate of the espense, the difference to the city between selling and retaining this land will amount to at least four millions of dollars. But this is not all; for if we double the price of the land, as a fair representation of the value of the buildings which would probably be erected upon it, we shall add immensely to the taxable property of our city, besides increasing her annual revenue by at least half a million of dollars.

The general views upon the subject of a sale here pre-

sented were more fully expressed by the President of this Commission, at a public discussion of the matter, to which the Park Commissioners invited their fellow citizens last spring, at the Court House; and they now append a copy of the statement then made, respectfully soliciting a candid consideration of the arguments therein contained.

With regard to the ability of the city to make a good title to the land proposed to be sold, the Commissioners entertain no doubt. When this land was first taken, and it became necessary to raise money for the payment of awards, city bonds were issued and put upon the market for sale. The chief security for these bonds consisted in a statutory lien upon the park, and it was objected by capitalists—but erroneously, in the opinion of the Commissioners—that, for-as-much as the city had not the fee of the land, but took merely an easement, similar to that by which a street is held, if the holder of the security should be compelled to realize, he could have no permanent possession of the land, since it would revert to the owner of the fee as soon as it ceased to be used for park purposes. In this respect the security seemed to be inferior to that of the city's water bonds, where the entire property of the department, including reservoirs, pipes and hydrants is pledged for payment. In order, however, to quiet the fears of the timid, and to furnish a new credit for park bonds, which should make them equal in every respect to the water bonds, an act of the Legislature was passed in the spring of 1865, authorizing proceedings to be taken for the purpose of transferring the ultimate fee of the land to the city, if, perchance, it had not already vested under the original act. Such proceedings were accordingly had, the residuary interest of the owners was valued by Commissioners appointed by the Supreme Court, and payment made to the parties. This payment necessarily included the whole value of the inheritance, leaving nothing further to be paid to the owners at any time or under any circumstances. It was the full market value of the land at the time, and no objection was ever made to such valuations by the parties in interest.

The validity of a similar act of the Legislature was sustained by the Court of Appeals, in this State, where grounds, which the city of New York had taken for public purposes, were sold under similar circumstances. The court held, not

only that the Legislature had power to authorize a municipal corporation to acquire a full title to the lands of private persons required for such purposes, upon the payment of a just compensation, to be fixed by Commissioners appointed by the court; but that when so acquired, no reversionary estate remained in the former proprietors. It held, furthermore, that if the public exigencies required the subsequent conversion of lands thus acquired to some other purpose than that for which they were originally taken, they might be converted and sold without accountability to the former proprietors. And this decision appears to the Commissioners to be manifestly equitable and just, for if, when the particular object for which land was taken had ceased to exist, it should by any operation of law be allowed to return to the owners, they having received full compensation for their relinquishment of it to the public use, it must necessarily follow that they would not only have their land again, but its price also. No one, we think, will fail to see the iniquity of such an extraordinary result as is here suggested.

The owners, then, having received payment in full, and the fee of the land being absolutely vested in the city, the Commissioners are satisfied that, if the Legislature concur in a sale, there can be no difficulty in making title. There is, of course, no longer any other outstanding interest, unless it be that of the bondholders, and their interest will be effectually protected by placing the whole proceeds of sale in the hands of the Commissioners of the Sinking Fund, for the redemption of their bonds.

As part of the history of our proceedings during the year, we are here obliged to refer to a proposition made to the board, on the part of some gentlemen residing in the Ninth and Twentieth Wards of the city, to enter into a contract with them for the improvement of this portion of park land. Their proposal, with the report of the committee to whom the matter was referred, is appended to this report, and fully explains the reasons of the board in declining to enter into such a contract.

The Commisioners cannot take leave of this subject without again expressing their thorough conviction of the propriety, if not the necessity, in view of the city's extended financial obligations, of making a fresh disposition of the land on the east side of the avenue, so that it may be laid out and sold under their

direction, in a way which they think will not only benefit the park by giving it proper approaches from the north and east; but will, at the same time, add largely to the value of property in its vicinity, and establish the secular character of this whole quarter of the city upon an entirely new basis.

During the past season, the work of construction has gone forward upon all the parks under the control of the Commissioners with as much rapidity as was practicable, and they respectfully refer to the reports of their landscape architects and engineers, which are hereto annexed, for a full detail of the various operations in which they have been engaged. The whole area under treatment, thus far, is 352 acres in Prospect Park, and 30 acres on Washington Park; 255 acres of the former park, consisting of woodland, shubbery and meadow, with the intervening roads, walks and waters, are now complete. The finished drives extend over a space of five miles in length, and the bridle-paths an equal distance. Of finished walks we have over five miles, with four additional miles in progress. And the construction of the whole design, with a slight exception, may now be said to be complete east of a line drawn through the middle of the park. Work is more or less advanced over the entire residue of the park, and the greater part of it can, in the opinion of our architects, be adapted to public use, in the course of another season.

One of the most interesting incidents of the year's progress has been the completion of the great well and water-works connected therewith. A full description of this fine specimen of engineering skill, and of the very satisfactory results which have been obtained, will be found in the able report of Mr. Martin, the Engineer-in-chief. The board have now no doubt that the supply of pure spring water from this source will be amply sufficient to keep the extensive ornamental waters of this park in a good healthy condition, independent of any other supply.

The work on Washington Park has been diligently prosecuted, and its interior improvement is now so nearly complete as to justify the erection of the stone wall which is now engaging the attention of the architects, and will speedily enclose this popular resort. A tasteful design for the vault to be erected in this park for the reception of the remains of the Prison Ship

Martyrs, has been prepared, and is under advisement by the board. The matter will continue to receive that degree of consideration which it so justly deserves.

Tompkins Park, which is laid out in a rapidly growing quarter of the city, was recently placed under the charge of the board; but no provision seems to have been made for its improvement, and the Commissioners have consequently been unable to do anything further than to protect the property from depredation. They trust, however, that authority will be given by the present Legislature to raise money sufficient to improve this park in a style corresponding with the other small parks of Brooklyn.

The parade ground is now in complete order, and has during the last season witnessed some of the finest displays of our citizen soldiery ever exhibited in Kings county. In addition to the trees planted and roads worked, a substantial shelter-house, with suitable accommodations for the military on parade days, has been erected on the ground; the main building being forty feet square, with wings extended to the distance of sixty-four feet on each side.

During the past year nothing of any importance has been done towards the improvement of the City Park. It is, in fact, becoming every day more evident, as the superior attractions of Washington Park are being developed, that the City Park is not likely, for some time to come, to be used to any extent as a pleasure ground. When the population of that quarter of the city shall have crowded Washington Park beyond its capacity, and shall require greater park facilities than are now afforded by its beautiful slopes and hills, or when our city's debt shall have been brought within such easy and reasonable proportions as shall cease to be a serious burden to our taxpayers, the discussion of the best method of fitting up the City Park as a place of amusement may be resumed with advantage; but at present the Commissioners deem it unwise and impolitic to expend upon it that amount of money and of labor which would be required to render it at all suitable for such a purpose.

It may be many years before the public accommodation will justify such an expenditure: but in the mean time the property may and should be put to some profitable use. Its

advantages as a market site were set forth in a former report of the Commissioners, and need not here be repeated. Public opinion seems fully to have endorsed their recommendation to use it for the purposes of a general public market; and they hoped that some action of the Common Council would ere this have resulted in the establishment of that much needed public accommodation. But no such movement having been made, they think they should no longer delay to act upon that requirement of the law which placed this park under their supervision and renders it obligatory upon them to suggest to the Legislature such further legislation in regard to all the Brooklyn parks as they shall deem advisable. They intend, therefore, to lay the whole subject before the Legislature at its present session, and to suggest the use of this park for a public market, until it shall be found expedient to resume its use as a park, believing that an economical plan of improvement may be adopted, which will greatly enhance the value of the surrounding property, and be at the same time productive of a handsome revenue to the city, which may be devoted to the improvement and maintenance of the other city parks, or used in liquidation of the general park indebtedness, as may be deemed most expedient.

The unveiling of the Lincoln statue erected upon the Plaza of Prospect Park by the dollar subscriptions of our people, under the management of the War Fund Committee of Kings County, formed an epoch in the history of our city, as well as of our park, and gave occasion to an interesting display of taste and of patriotism. A. A. Low, Esq., officiated as the presiding officer, and delivered the opening address; after which the statue was duly presented by James P. Wallace, Esq., on behalf of the committee, and was received by the President of this Commission in terms befitting the occasion. The several addresses made by these gentlemen will be found appended to this report, but the Commissioners regret that they are unable to include the admirable address of the Rev. Dr. R. S. Storrs, which was delivered at the same time in honor of the event.

A financial statement of the receipts and expenditures of the Commission for the current year forms part of this report, and is applicable to the construction of all the smaller city parks, as well as of Prospect Park. It includes also, a detail of the ex-

penditures upon each park, with the object of such expenditure. In addition thereto will be found a statement of the fund for the general maintenance of the parks now under the charge of the Commissioners, which was levied in the tax of the previous year and placed in their hands for that purpose. The amount received on this account, it will be seen, was not sufficient to defray the expenses of the year, and the deficiency must necessarily be made up temporarily from the maintenance fund of the year 1870. When the requisition for this fund was made upon the joint Board of Common Council and Supervisors, as authorized by the law of 1868, it was, of course, in advance of the expenditure, and with an uncertainty as to the particular amount which would be required for the purpose, the Board having up to that time no specific data upon which to base their estimate. But experience has shown that their former estimate of the expense of maintaining the parks was too low, and that for the future the amount which will be required to be raised for maintenance will not be less than the whole sum authorized by law to be expended on this account.

It will be observed, also, that the fund for the construction of Prospect Park has now reached the limit assigned to it by the law of 1868, and as an application must be made to the Legislature for additional means with which to finish this park, it may not be improper to glance at the history of past legislation, as connected therewith. The law of 1860, which organized the first Board of Commissioners, and gave form and feature to the original park enterprise of our city, directed that no plan for the improvement of the land thereby placed under their charge should be adopted or undertaken of which the entire expense, when funded, would require for the payment of its annual interest a greater sum than $30,000 per annum. This amount was slightly modified by the amended act of the next year, which limited the cost of improvement to $500,000, and was adapted to the simple and inexpensive style of improvement originally suggested for this park. The restriction, of course, applied only to the comparatively small portions of land lying in the vicinity of Flatbush avenue, as contemplated by the act of 1860, and had no reference to the enlarged park which was subsequently placed under the charge of the reorganized Board. In their first expenditures of money, the Com-

missioners confined themselves to this amount so long as they were operating upon land within the original park boundaries; but by the act of 1866, which extended the park area to very nearly its present dimensions—228 acres having been added—a new and entirely different style of improvement was adopted, requiring the expenditure of more money. The former restriction was accordingly removed, and the Commissioners were authorized to expend such reasonable amounts for improvement as should be found necessary, and the city authorities were directed to issue bonds and furnish means upon the requisition of this Board, in the same manner as they had been directed to do under the former act. This arrangement continued until 1868, when the improvement fund was limited to three millions of dollars, including the bonds which had been previously issued.

This limit, as we have said, has now been reached, but a very considerable portion of the park, including the fifty acres recently annexed, yet remains to be improved, and the Commissioners will be obliged to suspend further operations until the Legislature shall have provided means for its completion. As to the exact amount which will yet be required for this purpose, the Commissioners can make no very definite statement. A fine work of art, such as the regulation and embellishment of a park of this description, cannot properly be executed by contract, but in the judgment of the Commissioners the amount required will not exceed two millions of dollars.

Before closing their report, it may not be uninteresting to the taxpayers of our city for the Commissioners to state the extent of the burden which park enterprise now imposes upon our city. The amount awarded for land first purchased for Prospect Park, on the 15th of June, 1864, including expenses, as appears from the official report filed in the County Clerk's office, was..... $1,387,606 27

For the second purchase on the 5th February, 1866.....	158,558 40
For the third purchase, on the 27th May, 1867.	752,745 02
And for the fourth and last purchase, on the 13th of April, 1869.....	1,705,248 32
Total.....	$4,004,158 01

From this deduct the amount awarded to the city for a strip of land, thirty feet wide, taken from the park for the widening of Vanderbilt avenue, and paid into the sinking fund to be applied in the redemption of park bonds.....	28,509 60
and the present cost of all the land purchased will be.....	$3,975,648 41
If to this we add the amount authorized to be expended for improvement.....	3,000,000 00
the total indebtedness of the city at this time, on account of this park, will be.....	$6,975,648 41

But no solicitude need be felt by our citizens on the score of expense. In a merely pecuniary point of view, and without regard to the immense social and moral considerations involved in the possession and use of such a park, the acquisition of the property is proving, as we have shown, a spendid investment for the city, and every dollar now expended upon it will add to its permanent value. This property has cost say seven millions of dollars, but if sold to-day it would realize more than enough to pay the whole debt of the city; and long before the bonds issued for its purchase shall have matured, it will, in all probability, be worth ten times its cost, besides giving an impetus to property in its neighborhood that will afford a tax more than sufficient to pay the interest on its cost, and liquidate the entire debt at maturity, without adding anything to the general taxation.

Dated January 11th, 1870.

JAS. S. T. STRANAHAN,
President.

JOHN H. PRENTICE,
Secretary.

JOHN N. TAYLOR,
Comptroller.

AN ABSTRACT OF THE FINANCIAL STATEMENT

OF THE

BROOKLYN PARK COMMISSION

FOR THE YEAR 1869.

CONSTRUCTION ACCOUNT.

The total receipts on account of PROSPECT PARK during the year 1869, were:

Balance of cash in bank, January 1st		$40,223 78
Received from Treasurer of the City	$740,000 00	
" " Rents of houses in the park	6,142 01	
" " Sales of old houses	2,022 00	
" " Wood, grass and old material	1,193 62	
" " Interest on bank balances	5,519 91	
" " Lost tools	2 40	
" " Park pound	568 00	
" " Labor furnished contractor	309 36	
" " Parade ground for improving Franklin avenue	4,613 32	
		760,370 62
		$800,594 40

The total expenditures on this park for the same time were:

Paid salaries, Comptroller, Superintendent, Landscape Architect and Engineers	$25,666 30	
" Surveyors, draughtsmen and assistants	28,521 50	
" Laborers, mechanics, horses and carts	501,651 58	
" Materials of construction, tools and instruments	162,871 52	
" Stationery, printing and drawing materials	4,527 24	
" Fitting up offices, rent and repairs	3,385 04	
" Trees, plants and shrubs	7,099 15	
" Manure and other fertilizers	1,031 18	
" Water pipe and hydrants	15,532 51	
" Drainage pipe	3,420 42	
" Patent pavements	12,974 52	
		766,680 96
" Balance to credit of Prospect Park, Dec. 31, 1869		33,913 44
		$800,594 40

The total receipts and expenditures on account of WASHINGTON, CARROLL, CITY HALL and CITY PARKS were:

Balance of cash, Jan. 1st	$46,973 47
Transferred from City Hall Park to maintenance	121 66
	$47,095 13

The total expenditures were:

WASHINGTON PARK.

Paid Surveyor and assistants	$3,937 28	
Materials of construction and tools	6,309 95	
Manure	971 82	
Drainage pipe	908 30	
Laborers, horses and carts	33,397 36	
Trees, plants and shrubs	1,834 09	
Patent pavements	4,048 01	
		$51,406 81

CARROLL PARK.

Materials of construction and tools	280 52	
Laborers, horses and carts	311 24	
Manure	7 00	
Trees and plants	64 54	
		663 30

CITY PARK.

Laborers, horses and carts	44 27
	$52,114 38

PARADE GROUND.

The total receipts on account of the PARADE GROUND during the year 1869 were:

Balance of cash in bank, January 1st	$4,425 43	
From City Treasurer	13,630 00	
		$18,055 43

The TOTAL EXPENDITURES for the same time were:

Paid surveyors and assistants	$405 28	
" Materials of construction	2,788 71	
" Keepers, mechanics, laborers and teams	4,510 69	
" Regulating and grading Franklin av.	4,613 32	
" On account of lodge and shelter	6,500 00	
		$18,818 00

MAINTENANCE ACCOUNT.

Received from the city for the maintenance of all the parks..... $68,400 00

Expended on the same account:

For	Prospect.	Washington.	Carroll.	City.	City Hall.	
1. Roads.....	$7,433 69	.....	.....	.....	.....	
2. Walks.....	628 38	$467 18	$104 37	$109 99	$109 19	
3. Structures...	393 57	3 51	13 91	510 95	21 93	
4. Plantations...	16,660 96	1,947 61	214 13	48 36	231 37	
5. Water.....	5,148 06	348 33	17 00	.....	.....	
6. Drainage.....	1,254 89	34 84	8 10	.....	1 48	
7. Ice.....	1,951 89	.....	.....	.....	.....	
8. Tools.....	77 99	55 59	.....	.....	.....	
9. Keepers.....	42,962 29	2,115 74	1,028 17	342 21	.....	
10. General.....	2,927 90	15 18	23 87	.....	6 70	
Total.....	$79,439 62	$4,987 98	$1,408 55	$1,011 51	$370 67	$87,218 33

Deficiency of maintenance for 1869..... $18,818 33

EXPLANATION OF THE FOREGOING STATEMENT.

1. Roads.—Under this head are included repairs of road-beds, breaking stone for roads—gravel or other surface dressing—rolling same, and repairing and cleaning silt basins used on roads.
2. Walks.—Includes similar items, so far as applicable to walks.
3. Structures.—Includes everything necessary to keep bridges, buildings, and other structures in repair.
4. Plantations.—Includes the care, dressing and manuring of grass, plants and trees, the rolling of lawns, and cutting, curing and removing of grass.

5. Water.—Includes the care and cleaning of the ornamental waters of the park. Expense of Ridgewood water, steam engine, and repairs of waterworks, hydrants, pipes and fountains, and the distribution of water for drinking, and the sprinkling of roads, walks, and watering trees and plants.

6. Drainage.—Includes all expenses appertaining to the general system of sewers and basins (except those used in roads and walks), and everything required for carrying off surface water.

7. Ice.—Includes the care of ice, cleaning, planing, and illuminating at night, with the erection of houses to accommodate the public during the Winter.

8. Tools.—Includes the making and repairing of implements of all kinds used on the park.

9. Keepers.—Includes wages and uniforms, and all other expenses incident to this department.

10. General.—For a class of expenditures not properly chargeable under any of the preceding heads.

RECAPITULATION OF ALL THE EXPENDITURES OF THE BROOKLYN PARK COMMISSION.

	1865.	1866.	1867.	1868.	1869.	Total.
Prospect Park ...	$17,780 90	$195,701 10	$973,903 60	$1,078,645 12	$766,680 96	$3,032,711 68
Washington Park	.....	.....	1,851 86	73,835 09	51,406 81	127,093 76
Carroll Park	.....	.....	1,810 56	16,716 98	663 30	19,190 84
City Hall Park...	.....	.....	.....	1,343 03	.....	1,343 03
City Park.....	.....	.....	558 44	367 98	44 27	970 69
Maintenance.....	.....	.....	.....	.....	87,218 33	87,218 33
Parade Ground..	.....	.....	250 68	8,772 89	18,818 00	27,841 57

JOHN N. TAYLOR,

Comptroller.

REPORT

OF

COMMITTEE ON THE OFFER OF EDMUND DRIGGS AND OTHERS TO IMPROVE THE LAND EAST OF FLATBUSH AVENUE.

PROPOSAL.

To the Board of Commissioners of Prospect Park,

Gentlemen: During the recent meetings and investigations you and your engineers estimated the expense of improving the 137 acres of Prospect Park, lying east of Flatbush avenue, at from $1,500,000 to $2,000,000. The undersigned believe the estimate to be exaggerated, and that such exaggeration may have a tendency to prejudice the public against the restoration and improvement of this portion of the park lands. We therefore offer to lay out and improve this land, not including fences or bridges over, or tunnels under, Flatbush avenue, under the management and supervision of Gen. Egbert L. Viele, or some equally competent engineer, and in accordance with the plan presented by him, for a sum not exceeding $625,000. Roads to connect with the present roads lying west of the avenue; and will add over bridge of Flatbush avenue of elegant construction, and a tunnel under the avenue, for a further sum not exceeding $150,000. These sums are the extreme limit of expense, but we will fulfill our proposition for the actual cost of the work. We will furnish adequate security for the performance of our undertaking.

This offer will be open to your acceptance until the first day of July, 1869.

Dated May 22d, 1869.

Yours, respectfully,

EDMUND DRIGGS.
J. W. HUNTER.
CHARLES JONES.
WM. W. GOODRICH.
J. CARSON BREVOORT.

REPORT.

The Committee to whom was referred the communication of Messrs. Edmund Driggs, John W. Hunter, Charles Jones, Wm. W. Goodrich and J. Carson Brevoort, under date of May 22d, 1869, by which they offer to improve so much of Prospect Park as lies east of Flatbush avenue, at a cost of $775,000, under the engineering of Mr. Egbert L. Viele, or some equally competent engineer, according to a plan which was suggested by Mr. Viele, in 1860, respectfully report:

That there seem to be many obvious reasons why the board should not accept this proposal.

In the first place, it is to be executed under the supervision of gentlemen who have not yet been appointed Commissioners, and without regard to the fact that there is already a Board of Improvement Commissioners, who must continue to discharge their duties until their successors in office are appointed. Next, they in effect designate Mr. Viele as engineer; but the board is not yet prepared, we think, to substitute him in place of the skillful and experienced engineers who are now in charge of park improvement. And furthermore, they propose to improve the land according to Mr. Viele's plan—a plan which is not in harmony with the present park design, and which has not been adopted by the board, nor approved of by the people.

There are other serious objections to the proposition of these gentlemen. They evidently require too much money for the work they propose to do. The board's estimate of the cost of improving the east side of the park, as stated at the public meeting of citizens in April last, to which their communication refers, was one million of dollars, and not from one and a half to two millions, as stated in the proposal. It also included two bridges and the necessary fencing, with all such other equipments as are required for a place of public resort; while their estimate includes no fence, and only one bridge with a tunnel. If we add the cost of an enclosure with an additional bridge, their offer will be carried up from $775,000 to over a million. But while the committee think the charge is too high, they are pleased

to find in it a confirmation of our own estimate, that this improvement would cost over a million of dollars.

The proposal, moreover, is premature. It has not yet been determined that the area of land now in the course of improvement on the west side of the avenue, is not sufficiently extensive for a park, or that it is not of convenient access to the masses for whose use it is designed. If so, then neither the necessity nor the expediency of improving the eastern side, in addition to the other, and of thereby permanently abstracting from our city's domain a large amount of taxable property, is by any means certain. In the judgment of the committee this improvement ought not to be made; and they believe the opinion of those who have to pay for public works—the taxpayers of Brooklyn—is decidedly against its being made. This board has repeatedly expressed its opinion to the same effect in its annual reports, giving the reasons therefor at length.

In the address of the President at the public meeting above referred to, which was afterwards published in our local newspapers, it was stated that after retaining the Reservoir ground, with its beautiful prospect, and a very considerable area for the accommodation of public buildings and institutions, besides opening up a broad system of approaches to the park, eastward from Flatbush avenue, the residue of the land on the same side could be sold for three millions of dollars; and that by saving another million which it would cost to improve this section as a park, and adding it to the three millions for which the land could be sold, a saving of four millions of dollars would be effected, besides returning a large amount of property to the books of the tax collector.

The Committee think that, with the present great burden of public debt and taxation resting upon our city, the saving of this large sum of money would be a sound and wise economy; and they believe that all thoughtful and prudent men, who are not biased by their ownership of a large estate on the eastern side of the avenue, will concur in this opinion. The Committee cannot recommend the Board to fly in the face of an enlightened public judgment, by proceeding to do, upon the suggestion of a few interested persons, what would render the saving of these four millions impossible.

There is, it is said, a diversity of opinion on this question of spending or of saving four millions. But those who differ belong mainly to two classes of persons. One class own land in the vicinity of the proposed improvement, and think their land will be greatly enhanced in value by spending some millions of money to bring the park to their doors. While we do not concur in the opinion, believing that

even their interest will be better served by using this land for the erection of fine residences than by retaining it for park purposes, we can readily see why they should be so strenuous to have this money spent, and not saved. The other class is the large body of tax-paying citizens, who think that a great public park ought to be constructed at the cost and for the benefit of the whole city, and not for the benefit of a mere locality in its neighborhood.

Incidentally, the land in the vicinity of this park has been greatly increased in value, from its proximity thereto; but when those who have received this advantage insist upon charging another four millions of dollars upon the tax-payers, in order that their large gains may be swelled to still larger proportions, those who have to pay object. They are willing to spend and to pay what the best interests of the city, as a whole, may require; but they are not willing to spend more than this for a local, as distinguished from a general public advantage.

For these reasons, some of which have been already more fully set forth in the published reports of the Board, the Committee recommend that the offer of Mr. Driggs and his associates be declined.

Dated June 28th, 1869.

ADDRESSES

DELIVERED AT PROSPECT PARK, ON THE 21ST OF OCTOBER, 1869, ON THE OCCASION OF THE DEDICATION OF THE LINCOLN MONUMENT.

MR. LOW'S ADDRESS.

Mr. Low said:

FELLOW-CITIZENS,—In the eventful year 1865, the "War Fund Committee of Brooklyn" resolved to signalize the close of their voluntary labors by erecting a monument to the memory of the lamented patriot and martyr, by handing down to posterity, in truthful outline, the form and features of the great man who had successfully guided the destinies of our country through its most perilous crisis—thus bringing art to the aid of history in immortalizing the name of Abraham Lincoln.

It was at once determined to raise the necessary funds by a small but general subscription. An appeal, accordingly, was addressed to the people, and the people responded gladly. Circumstances favored the movement. A sentiment of gratitude, tempered by a feeling of the profoundest sorrow, wrought upon the hearts and will of all.

The struggle for the nation's life was over. The flag of the Uuion everywhere waved in triumph, and the return of peace was hailed with universal delight. While transports of joy, and the cheers of the loyal were resounding throughout the North, the death of the President was unexpectedly announced, and the shout of triumph was changed into a wail of mourning! The people wept!

And now the lessons of the war were rehearsed anew. The providence of God in the events of the war was in every mind and on every tongue. Memory recalled the time, less than five years before, when a man, in stature like unto Saul, was summoned from an obscure sphere in life to fill the highest office in the gift of the people.

The popular vote had been cast amid forebodings of evil, and the future was to witness their worst realization. The President elect would be the head of the army and navy, and few of all the people knew their appointed leader. The foes of the Union were exultant. War speedily followed the inauguration; and at the close of the war, a name so lately unknown had become illustrious in the annals of our country. The fame thereof had spread throughout all the nations of the world; and when tidings of Abraham Lincoln's death went forth, words of confidence and eulogy came back from courts and kingdoms in such measure as to fill a capacious volume. The compilation forms a priceless treasure in the Department of State at the capitol of the nation.

And thus it came to pass that as, in the earlier days of the republic, God raised up Washington to be, as he was justly styled, "The Father of his Country," so, in these later days, God raised up Lincoln to be our country's deliverer. Washington gave to the States of the Union independence and a standing among the nations. Lincoln put down a formidable rebellion, turned away the curse of slavery, and left the States united and free.

Lincoln was the providential man of our own time, and to perpetuate his memory is our grateful duty; to raise a statue to the honor of his name is a just tribute of affection to the worth and wisdom of the lamented patriot, who died, as he had lived, for his country! We thus manifest our gratitude to God for His gift of a life so precious.

The delay which has occurred is not to be misunderstood as manifesting a want of zeal on the part of the Committee who have had the work in charge. It was early committed to one of your gifted townsmen, was long since perfected, and has been waiting the convenience of the Park Commissioners, under whose direction the pedestal has been prepared on which the statue is henceforth to stand. It seemed to be most fitting and proper that on this spot, destined ere long to be the center of a vast city, this monument should be erected; that all our citizens who gather from time to time in this Plaza, and look upon the form and features of this central figure, may be led to ponder the example of the great original; to recall, with gratitude, the good he did, and the impress he made on his age and generation; that here beneath this statue, before entering upon paths of pleasure now opening to our view, the vow may be renewed by all faithfully to maintain and loyally to uphold the Union and the Government established by our fathers.

Let us hope that, as the waters which supply the fountain by our

side, whose source is far distant, are made to flow out and penetrate every house and home in our city, so there will go forth from this spot, hallowed by precious thoughts and memories, an influence that shall animate and strengthen all hearts; that this influence may descend from generation to generation, advancing whatever is worthy of emulation in the past or present. And so our work of to-day shall be blest.

From the lips of another you will presently be called to contemplate the influence exerted upon our own age by the life and death of him whose virtues we seek to commemorate—whose loss we cease not to deplore. The same voice, always welcome to our ears, was heard not long since in glowing eulogy at the funeral obsequies of the departed.

We have come here to-day by invitation of the War Fund Committee, to take part in the consummation of this long cherished purpose, to celebrate with appropriate ceremonies the unveiling of the statue of our late lamented president, Abraham Lincoln.

The President of the United States, the Governor of the State of New York, the Mayor and Common Council of our city, Judges of the respective courts, officers of the army and navy, soldiers and sailors, who shared in the perils and in the glories of the war, and all who contributed to the erection of this monument, have been asked to be present, to witness the transfer of this gift of the people to the city of their pride, and, on the part of the Park Commissioners, to whose charge it is to be committed, the acceptance of this sacred trust.

Permit me, in concluding these introductory remarks, to associate with the rich memories of this hour, and of this occasion, the ever memorable words uttered by Mr. Lincoln at the close of his second inaugural—the last, I believe, publicly addressed by him to the American people. They will endure longer than bronze, however imperishable it seems. What better inscription can be put upon this monument?

"With malice towards none, with charity for all, with firmness in the right, as God gives us to see the right, let us strive on to finish the work we are in, to bind up the nation's wounds, to care for him who shall have borne the battle, and for his widow and orphans, to do all which may achieve and cherish a just and lasting peace among ourselves and with all nations."

MR. WALLACE'S PRESENTATION ADDRESS.

Mr. Chairman, Ladies and Gentlemen:—I have the honor on this occasion to represent a two-fold constituency.

First. About thirteen thousand citizens of Brooklyn, without distinction of creed or political faith—men, women and children, who, for the love they bore a great and good man, made up a contribution to honor his memory. From the laborer on the highway, from the workshop, from the counting-room and store, from the stately mansion of the wealthy, and from the scanty apartment of the industrious poor, wherever reverence or love for Abraham Lincoln thrilled the heart, or wherever was detestation or horror at the dreadful deed which so suddenly terminated his useful life, thence came the little drops into the treasury, a name with every dollar, and a dollar for every name. Noble men! noble women! Names fragrant to the memory, worthy to be preserved—and they have been preserved in the archives of the Historical Society, that all who come after may know to whom belong the honor of building up this monument to Abraham Lincoln.

My second constituency is a body of prominent patriotic citizens who banded together during the war, and contributed freely of their time, of their influence, and of their means in support of the Government, whose praise is in every mouth, and who are known as the War Fund Committee of the City of Brooklyn.

Under the auspices of the committee, books were opened for subscription immediately after the assassination. Not more than one dollar was received from any person, that we might have pre-eminently a people's monument; and the committee bear testimony to the alacrity with which our citizens responded to the call.

The committee also bear testimony to the faithful management of their treasurer, who not only kept safe his whole trust, but so invested it as to make the $13,000 contributed earn $1,000 more, which sums together make the amount expended for this statue.

The committee also bear testimony to the liberality of our local press, which, without reward, except the consciousness of doing a good deed, used its mighty influence to fan the flame of patriotism, and encourage contributions to this noble object.

And especially the committee bear testimony to the skill and ability of the sculptor, H. K. Brown, whose works of art adorn Greenwood and Union square and the national capitol at Washington, and many other places of lesser note, and who with long and patient labor has produced this bronze statue, which portrays the likeness and characteristics of our late and lamented president to

such a degree as to excite the admiration and high satisfaction of our best critics.

And now it becomes my duty, as it is my pleasure, in the name of the War Fund Committee, formally to request the Brooklyn Park Commissioners, of whom (to Mr. Stranahan) you, sir, are the honored president, to accept in perpetuity the custody of this statue of Abraham Lincoln, to love and to cherish and protect during all the days of your authority.

May it ever stand here, looking out over our fair city, where it will hold in review the millions who will visit this beautiful park, and where our citizens, and the people of every name, as they come up those broad avenues, and look toward the rising sun, will ever be reminded of the pure, the noble, the patriotic Abraham Lincoln.

May his life and character be a model to ourselves and to our children, and to all who would aspire to influence and position in our land. May the union of all the States, and universal liberty—which he loved, and which was his highest earthly aim to preserve—ever be dear to the hearts of his countrymen, and may all the people of the East and the West, of the North and the South, feel themselves to be one people, with one common interest, only emulating each other by their love for the old flag, and for the whole country, and for the whole country's good.

MR. STRANAHAN'S ACCEPTANCE ON BEHALF OF THE PARK COMMISSION.

Gentlemen of the War Fund Committee:—The Park Commissioners have selected in this, the main entrance to Prospect Park, three positions as, in their judgment affording appropriate localities for the erection of as many statues, as memorials of three of the eminent men whose lives are intimately identified with three great struggles in our country's history. In one of these positions they hope to see a statue of George Washington, who on this ground fought his first battle in the war of the Revolution, and whose services as Commander-in-chief of the Revolutionary army, and subsequently as President of these United States, have not only entitled him to the nation's gratitude, but also secured for his name the enduring respect and veneration of mankind. In the second position they hope to see the statue of Andrew Jackson, distinguished among the illustrious heroes that appeared in the war of 1812, not less distinguished as the chief magistrate of this nation, and in both relations evincing a devotion to the unity, integrity and prosperity of his

country, alike unquestioned and unquestionable. It remains for the generous promptings of public feeling to give reality to these ideas and hopes of the Park Commissioners.

In respect to the third position, the events of this day and the ceremonies of this occasion tell their own story. Soon after the assassination of Abraham Lincoln, the popular heart glowed with an irrepressible desire to do honor to the memory of the lamented dead. Called to the presidency amid circumstances of the greatest difficulty, confronted in the very outset of his career with the embarrassments, complications and perils of an incipient civil war; contending, during the whole of his term of service, with one of the most formidable rebellions known in the history of nations; in these exigencies of peculiar trial conducting the government with a discretion, perseverance, firmness, and patriotic devotion that proved him to be the man of the hour; re-elected for a second term by a grateful and appreciating people; living till the victories of the army and navy had brought the country to the verge of peace, and then falling too soon for the nation's good, Abraham Lincoln has wrought for himself a name, and gained a place in the affections of the American people more lasting than any memorial which it is in the power of art to devise.

As one significant evidence of this fact, I point to that noble statue which has just been unveiled to the public, which you have now presented to the Park Commissioners as Brooklyn's tribute of gratitude to the honored dead, and which in their name I now have the pleasure to accept, pledging to you, and also to the citizens of Brooklyn, that they will endeavor to be faithful custodians of the sacred trust. Here let this monument stand, with the other two to which reference has been made, and which it is hoped will soon be erected, suggesting to the thousands who may hereafter seek the recreations of this park, that nobleness of character, trueness of heart, and eminent service for the public good, are alike the best qualities of the citizen, and the surest guarantees for the permanent respect of the nation.

THE PARK BOUNDARIES.

Speech of the Honorable J. S. T. Stranahan, *President of the Brooklyn Park Commissioners, at a public meeting called for the discussion of the question of the boundaries of the Park, at the Court House, on the* 30*th March*, 1869.

I do not know what may be the pleasure of the meeting, but I have conversed with a few gentlemen since I came into the room and it seems that I am expected to make a statement on behalf of the Board, and perhaps in some degree on behalf of myself. And I should make that statement at the very commencement—at the opening of the meeting.

We have met to consider a proposition for an act of the Legislature to change the boundaries of our park. That we may take it up intelligently, I propose, first, to briefly state some of the more important facts in the history of the proceedings which have brought the proposition in question before us.

In the year 1859, a demand was felt for legislation to secure public grounds in this city about equally for two objects: first, for parks; secondly, for the purpose of parades.

Influenced by this demand, the Legislature appointed a Commission composed of highly respectable citizens, partly chosen to represent the park, and partly the military demand, who were charged with the duty of selecting suitable sites for each purpose.

The Commission reported the following year, recommending ground to be taken for parks at five different localities. Of the proposed parks two only need to be particularly referred to now. The more important one was proposed to be located in close connection with the two great cemeteries and the reservoir at Ridgewood. The ground recommended to be taken for it amounted to thirteen hundred acres. Another, about one-fifth as large (two hundred and sixty-seven acres), was proposed to be located so as to include the reservoir at Prospect Hill.

It will, perhaps, at this time, not be at once apparent why those interested in the question should have been led at first to propose that the more important park for our city should be established at Ridgewood rather than at Prospect Hill. An explanation may be found in the fact that the military of the city had been accustomed to go to ground in that vicinity for drills and parades, and the attention of the

military gentlemen in the Commission had thus been for some time directed toward it, and partly in the fact that it then appeared comparatively to better advantage, as respects accessibility, than at present. Neither the railroad to Flatbush, nor any of the other railroads by which our park is now to be reached, had then been constructed, while there were three railroads already to Ridgewood, and the same Commission recommended that Atlantic avenue, which led toward it from the central parts of the city, should be at once widened and improved.

A desire to interpose an obstacle to the extension of the cemeteries toward the reservoir also doubtless had some influence upon the judgment of the Commission.

When, however, the proposition came to be discussed at Albany, it was found that some of the representatives of the Western District were strongly indisposed to commit the city to so large an undertaking; they urged that a park, however large and however fine it might be, situated at a point so far in the extreme east, could not fairly be regarded as the central park of the city; that a considerable part of it was in fact out of the city, and not only out of the city but out of the county, and that the regulation of streets and other matters on one side of it could not be within the control of the county authorities.

The close association of the cemeteries with a pleasure ground was felt to be objectionable, and finally it was said: "You propose to give the Eastern District a park five times as large as that you propose to give us, but you expect us to pay three-fourths of the cost of both undertakings."

The last objection was unanswerable, and after much discussion it was agreed upon, as a compromise arrangement, that the great Ridgewood Park should be made a local enterprise exclusively of the Eastern District, and that the proposed park at Prospect Hill should be considered as an affair exclusively of the Western District.

From this followed the arrangement under which the Eastern District is now exempt from taxation for the present Prospect Park.

The members of the Legislature from the Eastern District, after consulting their constituents, concluded to defer the passage of the bill which had been drawn up with a view to form the great park at Ridgewood, with the view of taking it up again the following years, but the war came, and it proved to be an indefinite postponement of that part of the original scheme.

I have thus shown how the project of a park at Prospect Hill was gradually developed as an independent local undertaking.

An act providing for the appointment of a Board of Estimate and Assessment, and also for appointing a commission to lay out and manage the proposed park at Prospect Hill, was passed in 1860. The commission were unable to immediately take any active steps looking to the construction of the park, but deeming it important for the interests of the city that, when they should make the first of the reports which they were required to present to the Common Council at the end of each year, they should be able to present the scheme in a form which would make it appear to the public as mature as possible, they decided that a survey and report suitable for publication should be at once undertaken. They appropriated fifteen hundred dollars for all the expenses of this survey and the report of the engineer, and obtained what was wanted for the immediate purpose in view; but it is hardly necessary to say that what was done at this time was of a purely preliminary character, and not at all what would have been required with reference to purposes of construction; certainly not with reference to the construction of the park which we now, five years afterward, have in hand, the boundaries of which are so different that nearly one-half of it is quite outside of the ground covered by the engineer's report, which we then obtained.

The fact should here be mentioned, that the boundaries of the park established at Prospect Hill, by the acts of the Legislature of 1860 and 1861, differed considerably from those recommended by the Commission appointed in 1859 to select the ground. The boundaries of the park recommended by the Commission did not extend so far toward Flatbush, and extended considerably farther to the westward, so as to take in half the blocks between Eighth avenue and Ninth, from Douglass to Third street. It was in part owing to my advice that the change was made, and I can perhaps answer as well as any one for the motives of it. The reason that I advocated the change was that it appeared to me evident that the city might obtain, at the same cost, a much larger area of land suitable for a park. We did obtain by the exchange, and without any additional cost to the city, more than twice as much land on the Flatbush side as the Commission had proposed should be taken in on the South Brooklyn side, and that which we gained included the ground occupied by the series of roads and walks running through what we call the East Woods, and which, during the last year, was so much enjoyed by the public.

After the passage of the act to establish the park in 1860, an effort was made to still farther revise its boundaries, and the engineer whom we employed to make the preliminary survey, in his report, seconded the proposal, suggesting that the ground between Warren and Baltic streets should be thrown out, and that the east boundary of the park should be shifted from Washington avenue to a new avenue proposed to be laid out between Classon and Franklin avenues.

This would undoubtedly have enabled a great improvement to be made in the plan of the park as then contemplated east of Flatbush avenue, giving it the greater breadth, which it so much needed, but the objection which was effectively urged against it was the serious inconvenience which would result from the closing of Washington avenue.

I have thus viewed the principal facts in the preliminary history of our enterprise. At this time nothing had been absolutely decided, for the act of the Legislature providing for a park at Prospect Hill, which was passed, as I have said, in 1860, proved to be defective. The work of legislation was accordingly done over again in 1861, when the Park Commission was definitely established, and the acquisition by the city of the land I have referred to was first legally provided for. It was not, however, until midsummer of 1864 that the Board of Estimate and Assessment completed their business, and we obtained possession of the land. We were then in the midst of the war, and even if we had obtained our land sooner, it is doubtful if we should have set to work upon it.

During these three years we had not, however, been merely lying still. The friends of the thirteen-hundred-acre-park scheme at Ridgewood had gradually abandoned their intention. Other parts of the original scheme had been dropped or modified. The military were beginning to look at the vicinity of Prospect Hill for their parade ground. The general subject of providing our city with parks had been much thought about, deliberated upon and debated by our Commission. We had obtained information about parks in other cities, abroad and at home; the influence they had exerted upon the cities which possessed them, and what it was in them that their influence depended upon. We had watched the Central Park rapidly advancing toward completion, and had gained experience of its great popularity, and of the influence it was destined to exert. Indeed, we in Brooklyn were already feeling the consequence of its construction in a manner not at all satisfactory to us. Not only had we been brought to understand the whole subject of our duties better, but

during those years—those long, those everlasting years—from 1861 to 1864, there had been great changes. Our city had been changing, and in all its change we saw a tendency becoming manifest which gave some of us much anxiety.

I speak of a tendency which we then saw toward results which we could not help anticipating with disquietude. Let us look at the facts, however, as they are patent to us to-day, and you will better understand what it was that we then saw, or thought we saw. During the last two years nearly one-half more houses have been built in Brooklyn than in New York. New York in 1867 built two thousand eight hundred and eighty houses. Brooklyn three thousand six hundred and fifty-nine. New York in 1868 built two thousand one hundred and twelve houses; Brooklyn three thousand three hundred and seven. It is certain that our population is increasing more rapidly than that of New York, and unless New York shall absorb the eastern towns of Westchester county, our city must be expected to gain yearly until it shall become the larger of the two. The question with which we are most concerned is, then, not so much the amount of population which we are to have in the future, as its character and its capacity. By character I mean especially its ability to meet its moneyed obligations, and thus bring down the percentage of its taxation.

It is never desirable that classes should be separated in the way they were tending to separate here five years ago; it is never desirable that the rich should so draw themselves apart in distinct communities or quarters as to throw upon the poor an overwhelming share of the burdens of carrying on the necessary expenses of their local government. You are aware of the terrible suffering which has occurred this year in the eastern suburbs of London from this cause; and also in some of the suburbs of Paris, where a complaint was lately made, that in a district containing 25,000 inhabitants, there was not a single resident rich enough to be called on for charitable aid to those in complete destitution.

By the construction of the Central Park, New York placed us for a time at special disadvantage in the competition for securing taxable capital. She had done so before when she had brought in the Croton, and to restore our advantage we had then been compelled, after waiting as long as we could, to undertake our Water Works. If we had not constructed them when we did, what would Brooklyn be now? Simply a poor suburb of New York. In the same way we were stimulated, after New York had made it necessary, to build the Academy of Music. In one thing only have we yet shown ourselves

able to exercise the forecast needful to the proper development of the advantages of our city, without waiting for a ruinous disadvantage in competition to be established. In one thing we are about to strike out first and foremost, and long before the much talked of railroad from the Battery to the upper part of New York and to Westchester is made, I trust we shall have had the advantage of our bridge.

But to go back to the Park Commission in 1864. At no time in the history of the two cities has the tendency appeared to be so strongly established toward a state of things in which the capitalists of the country living at its metropolis should have their residences in the city of New York, while their clerks and workmen only had houses in Brooklyn, with the inevitable consequence that the profit of the labor represented by our population should be mainly enjoyed outside our limits, and that our taxable property should be of hopelessly inferior character.

The question which was pressed upon us was, therefore, simply this: Whether any plan of improvement could be devised and undertaken which would be adequate to attract and hold among us a large share of that class of citizens which it was necessary should be attracted, if we were to avoid throwing upon our people of moderate means, and upon the poor, an excessive and crushing burden of taxation. If not, it was certainly very questionable whether we could afford to enter upon any plan the carrying out of which would involve the city in a considerable expenditure. In short, if we could not settle this point satisfactorily, it was doubtful, to say the least, whether the city could afford a park at all.

Considerations of this character weighed upon us much more in 1864 than in 1860, when the park at Ridgewood of 1,300 acres was still on our hands. They forced us to proceed deliberately and cautiously.

First of all, we took the precaution of giving a fresh and more complete examination to the question of boundaries, approaches and entrances—a question properly antecedent to the question of a plan of interior improvement—and for this purpose we called Mr. Vaux, one of the designers of Central Park, to our assistance. We knew that the want of consideration of this question at the outset had already been a source of difficulty, and of great expense to the Commissioners of the Central Park, and that they were even then debating propositions for acquiring land to improve their entrances, which had enormously increased in value since their work commenced. Our review of the question led us to fix upon one point

as especially suitable for a principal entrance to the park, and induced us to apply to the Legislature at once for the provision of so much additional land as was necessary to form what is now known as the Plaza. Had the Central Park Commission exercised the same forecast, in regard to the comparatively contracted vestibules which they are now about to lay out at their principal entrances, it would have saved at least a million dollars of their expenditures.

Turning, then, to the general question of boundaries, we had convinced ourselves that the ground we had was not all that was wanted in respect to extent or opportunity for improvement, with reference to the problem before us. But, although we obtained a report which very clearly demonstrated in what direction we should look for an enlargement of our borders, we determined, before recommending the acquisition of any new territory, that we would have a complete and well matured proposition to lay before the community.

We therefore next employed Messrs. Olmsted & Vaux to design a general plan, taking another year for its preparation, and for our deliberation upon it. When at length we were satisfied that we had matured a plan adequate to the purpose we had in view, we printed our design, with a report very fully setting forth its character, and circulated it diligently among our fellow citizens, inviting, through the newspapers and otherwise, their judgment upon it.

Being satisfied with the general expression of public opinion thus obtained, we then went to the Legislature and asked for the additional territory required to carry out the plan. We at the same time asked for power to sell the land not covered by our plan on the east side of Flatbush avenue, so that we might have money to pay for the additional land which we needed to carry out our design. The power to buy the largest part of what we wanted was given us, but although our request for permission to sell was backed by three thousand petitioners, and the bill for the purpose passed the Senate, it failed to receive the assent of the Assembly, and its discussion was postponed.

Still, the larger part of the necessary land was provided for, and we were now prepared to commence active operations with an increasing confidence that our scheme was a sound one, and that as it became better understood it would prove more and more acceptable, and eventually would be fully carried out. We at once, then, set about the improvement of a part of our ground, with a clear foreknowledge that the result would be taken by the public as a sample of what Brooklyn was going to have in the way of a park.

We began upon that part of our ground most difficult and most expensive to improve—that part where, in order to accommodate our grades to those already established in the streets, it was necessary to make the greatest changes. The Flatbush avenue grade had just been sunk 12 feet below its previous level. The ground we had to operate upon was in part a quagmire, and elsewhere consisted largely of a tough indurated clay, packed with stone, and requiring to be moved by the crow and pick. The whole district of our earlier operations was indeed a desert of the most disagreeable character, rugged, treeless, mutilated, and lying bare to the avenues, presenting a general resemblance to the unimproved ground south of the Reservoir. We took hold of it first because it was the most difficult, and because we knew that in removing difficulties we should be removing doubts. Now, this ground appears to the visitor who drives over it for the first time as if it were exactly in the shape that is most desirable; in connects perfectly with the avenue, the boundaries are hidden directly the park is entered, good-sized trees are growing over hill and dale, the meadow spaces are broad and ample, and it really seems as if nature had kindly adapted this particular spot for its special purpose.

It has undoubtedly been transformed from what it was to what it is at great cost, as an approach to ground of a totally different and much more attractive and easily treated character. It does not, however, follow that we can recommend the city to undertake a similar labor on the other side of the avenue, merely to improve disconnected patches of land that have no relation to the main scheme, which was based on the idea of balancing the difficulties of ground on the part of the park nearest the city, by the introduction of a large stretch of cheaper and more easily improved flat land at the other extremity.

We may here observe, in regard to the changes of boundary which have been made since the action of the Commission appointed to select a site in 1859, that so much of the park as has been taken from the town of Flatbush, being an area of 228 acres, or nearly one-half of all, cost five hundred and forty-three thousand. The upper portion, taken from within the boundaries of Brooklyn, containing 350 acres, cost two million seven hundred and ten thousand dollars. That is to say, for each dollar spent the city has obtained between three and four times as much land where it has taken it on the Flatbush side as it has where it has taken it on the Brooklyn side; and the cheap land, on an average, is much better for park purposes, and involves very much less expense for improvement than that

which has cost so much more. The great body of visitors will always enter at the Plaza. Once within the park it matters little where they travel. It was, and is, therefore, true economy to elongate and narrow the park toward the city, and to spread it out on the cheap land on the Flatbush side as we have done.

But to return to the main question: keep your mind fixed upon the end we had in view. With certain obvious natural advantages over New York, but as yet with confessedly less wealth and population, we wanted to guard against the danger that Brooklyn would take the character of a second-rate suburb of New York; wewan ted to aid in establishing for Brooklyn in the minds first of all of our own citizens, and afterwards throughout the country, the character of a first-rate quarter of the great metropolis.

And who will say that we have not thus far done our part towards this end?

Although our park is incomplete, only about 200 acres being as yet fairly improved, it is unquestionably the fact that it is talked of to-day all over the United States, by those whose opinion is of most value, as equal, and in many respects superior, to Central Park. And what has been the consequence? It has been said by those who should know, that the day we opened the park saw a rise in value of the real estate of our city of ten millions of dollars.

We submit, then, that so far we have served our city well. But we think that we can do more. We are convinced that the city, by a lucky chance, has the opportunity of gaining a still better reputation. We not only think that the impression can be established that Brooklyn offers places of residence as good in respect to park privileges as any in New York, but we also believe that an understanding can be established that the very finest sites for city residences, in connection with a noble park, need not be looked for in New York; they must be sought in Brooklyn.

It happens thus: New York was laid out years ago, when the price which great numbers of people are now willing to pay for luxurious residences was not dreamed of; when five or six hundred dollars per year was considered, even by a wealthy merchant, to be a great rent to pay. Now, on the other hand, there are numbers of people to whom five or six hundred dollars a year, more or less, is felt to be of little consequence in the rent of a house, provided it be so much finer and more luxurious.

In laying out the city this condition of things was not thought of; consequently the people of New York, through the Central Park Commission, are now seeking to improve their plan in that part of

the island as yet far out of town, where streets have not been made, and where there is little building. About their park they cannot do this, though efforts are making in a small way. There is the East Side Association and the West Side Association, and numberless little rings of interested speculators, who vainly try by forethought to control the character of some section or block in which they own lots, but no one of these appears to control property enough to do what is necessary to establish beyond contingency the success of a single comprehensive scheme. The recent rapid advance in value of the property held compactly and managed shrewdly by the corporation of Columbia College is an example of the advantage which may result from the power to control the character of improvements throughout a complete district, even when the street plan is out of the reach of improvement. In this case it has been made certain that a considerable property will be occupied for a long series of years exclusively by a certain agreed-on class of residences, but it is almost an isolated instance. It is too late to do anything of this kind in connection with the Central Park.

It is not too late for us. We still hold the opportunity of establishing a district which shall have throughout a character in the highest degree attractive. The possession by the city of Brooklyn at this juncture of the 128 acres of fairly paid-for land, on the east side of the park, thus puts in its hands the one additional lever that is needed to establish the balance of advantage between the two cities.

What we want to do with this land, then, is this. We want to thoroughly revise the whole street plan from beginning to end, and to lay it out anew in such a way as will not only be much more convenient and useful to the whole public than it would under any other plan that has been proposed, but in such a way as will make it easy for us to show every one who comes to the park that we have, in Brooklyn, sites in close connection with our park better adapted for first-class residences than can be found anywhere else. Then we propose to sell these lots, with certain provisos in regard to the character of the improvements which shall be made upon them. We believe that if we are allowed to develop this idea unhampered, it will tend to the advancement of the reputation of Brooklyn as a place of residence well nigh as much as the park itself, and will give it exactly the advantage that it needs in its struggle for its natural rights in this respect in competition with New York. We propose to reserve, besides the avenues and about twenty-eight acres of ground for public use, the lands which include the Reservoir and the higher

grounds adjacent. But after making these reservations for a public garden on the hill, and sites for public buildings and places, and after laying out the ample avenues which we propose to make, with their bordering plantations, there will still remain a body of over one hundred acres of land to be disposed of, with such restrictions as will insure the erection upon it of strictly first-class dwelling-houses.

If we assume that these lots will command the price of twenty-five hundred dollars a-piece, which is below the estimate generally put upon them, the sum which would be realized by the city from their sale would be three millions of dollars.

But we shall also save the expense of forming and maintaining the ground as a park; this we judge from our experience in dealing with the ground of a similar character on the other side of the avenue would be about a million of dollars. Of course we include in this estimate the fencing and all the usual and necessary furniture and equipment of a convenient and agreeable place of crowded public resort. Add this million to the sum which we expect to receive from the sale of the ground we do not want, and it makes a difference to the city in favor of our plan of four millions of dollars. We reckon that this sum will pay the city subscription of three millions to the Bridge and the improvements at the Wallabout, which may cost one million. This, however, is not all. If we double the price of the land, for the value of buildings which would probably be erected on it, we should add, independently of the immense stimulus thereby given to the surrounding property, at least eight millions of dollars to the taxable property of our city, and enlarge its revenues by nearly half a million of dollars annually.

We have very carefully considered the matter, and we express in these estimates our deliberate and well established convictions.

The ability of the city to make a good title to this land is sometimes questioned by persons who are not familiar with the history of park legislation.

In 1864, when land was first taken for the park, and it became necessary to raise one million three hundred thousand dollars to pay the awards, city bonds were issued and put upon the market for sale. The main security for these bonds consisted in a statutory lien upon the park land. Our capitalists, however, objected to this security, that the city had not the fee, but merely an easement in the land, similar to that by which a street is held, and that if the holder of the security should be obliged to realize, he could have no permanent possession of the land, since it must necessarily revert to the owner of the fee as soon as it ceased to be used for park purposes,

and that in this respect the security was inferior to that of our water bonds, wherein all the works, including reservoirs, pipes and hydrants, were pledged for payment. In order, therefore, to furnish a new credit for park bonds, which should make them equal to water bonds, an act of the Legislature was passed in the spring of 1865, authorizing proceedings to be taken for the purpose of transferring the ultimate fee to the city. Such proceedings were accordingly had, the residuary interests of the owners, valued by Commissioners appointed by the Supreme Court, and payment made to the parties. The result showed that capitalists fully appreciated the additional security thus established for park bonds, since they immediately rose in the market, and feel to this day the effect of this salutary provision. The fee of the land having been acquired, the Commissioners feel assured (and they are sustained by the best legal authority), that if the Legislature concurs in a sale there can be no difficulty about the title.

I have tried to give you a plain statement of the facts which have a material bearing on the point at issue. The questions involved are of vital interest to the taxpayers of this city. Holding the responsible position we do, as Commissioners of the Park, and having to carry forward this important public work in the face of serious disadvantages, we feel it absolutely necessary that we should have in the future, as we have had in the past, the intelligent, willing support of our fellow citizens.

The scheme, as you will see, has a definite beginning, and middle and end to it. The first stage has been passed through, and the result shows that our calculations were sound, for no one can deny that the enhanced value of Brooklyn property to-day fully justifies the liberally conceived plan of operations we recommended when our whole intention was laid bare before you three years ago.

We are now in the middle of the work; all the important points, save one, have been carried. We have all the ground we want, and where we want it. Our most burdensome operations in the field have been successfully carried through, and we are henceforward in a position to go ahead under more favorable circumstances. What the end is to be we cannot tell, for the point left unsettled seems to us to be of vital importance to the financial success of the whole undertaking. It is the one now before you for consideration.

What we ask, with a profound conviction of its necessity, is what we have asked for from the first, that the Legislature shall give us the power to make a fresh disposition of the land on the east side of

the avenue, so that it may be laid out under our direction in a way that we firmly believe will not only help the park, by giving it proper approaches in every direction, but will enable our whole scheme to become a really comprehensive project for the advancement of the prosperity of Brooklyn, and at the same time establish it on a thoroughly satisfactory basis as an investment of city funds.

We are, however, now as heretofore, open to any new conviction that will enable us the better to perform our trust, and only ask that the question shall be discussed in a candid spirit, and on broad public grounds.

REPORT

OF THE

LANDSCAPE ARCHITECTS AND SUPERINTENDENTS.

To the Brooklyn Park Commissioners.

Gentlemen: We lay before you our usual report for the year upon matters of design, construction and superintendence.

In the work laid out during the year, no essential deviation from the original design has been made, though certain details of importance have been introduced, which will be referred to below. The conditions which had previously prevented work upon the west side of the ground having been removed, the northern part of the park has been finished, with the exception of a little planting, and this portion of the design will next spring, for the first time, be comprehensively exhibited upon the ground. The main drive on the west side is complete from the entrance to the Lookout Hill, where it meets the Nethermead extension of the east drive, and the public has in use five miles of thoroughly constructed carriage-way. A corresponding extent of the surface has been worked over, and a large part of it now realizes the design, so far as it can be made to do so by the completion of the mere constructive work.

There are in use, also, five miles of graveled or concrete walk, and two hundred acres of woodland, shrubbery and open meadow surface. The construction of the park as designed is complete from end to end, east of a line drawn through the middle of it, except at two points, where there are deposits of clay and soil to be used elsewhere. Work is more or less advanced on nine-tenths of the remaining ground, and the larger part of it will be in suitable condition for public use next summer.

The most eventful occurrence of the year has been the completion of the great well, and the water-works at its mouth. A very important part of our design depended, for complete success, upon the practicability of obtaining a certain amount of water by this expedient, and we should hardly have ventured to include so large an extent of lake surface in our design without the encouragement of your pres-

ident, who had given special personal study to this source of supply, and who had from the outset perfect confidence in its availability. It is, therefore, a matter of congratulation that the plans prepared by Mr. Martin, as engineer-in-charge, and approved after thorough consideration by your board, have this year been successfully carried out, the present indications being that a considerably larger supply of water will be obtained than it was thought necessary to provide. The general result is, that a provision of excellent cold spring water, sufficient not only to keep the extensive ornamental waters in a condition favorable to health, but to furnish a large number of drinking fountains, has been secured in a manner which makes the park, to a great degree, independent of all other sources of supply. A public walk is required to pass the point where, for engineering reasons, the well occurs; and as many visitors will be desirous of examining it, we have preferred to treat its mouth in such a way that, while perfectly protected, no one can pass without obtaining a somewhat forcible impression of the extent and character of the work. For this purpose the walk, as it approaches the well from either side, is enlarged so as to include a circular deck, in the middle of which is a railed opening twenty feet in diameter overhanging the outer part of the cavity.

The boiler house attached to the well is in a conspicuous position on the lake shore, and we have designed its exterior with special reference to this prominence of situation. In its interior plan, a stairway for communication with the pump platform at the bottom of the well has been provided, so that, under proper regulations, visitors may have the opportunity of examining the works with ease and safety.

Mr. Martin, we are informed, is about to give up the appointment of engineer-in-charge, which he has for some time held under your Commission, having been invited to fill a position in the city of Brooklyn of larger professional responsibility; and we desire to put on record our sense of the value of his services to the park, not only in the solution of such special problems of construction as the one referred to above, but also in the daily supervision of the various operations that have been necessary to the practical development of the park design during the last two years.

There has been a more extensive transplanting of trees of a size making the use of special transporting apparatus desirable upon your ground than, to our knowledge, has been attempted elsewhere on the continent. Two trucks of original design, prepared by Mr.

Culyer, have been used, both operating in a more rapid and economical way than those so extensively employed in Paris. With one of these, trees weighing with the balls of earth attached fourteen tons, and measuring between four and five feet in circumference, have been moved. The whole number of trees weighing upwards of one ton, and measuring more than one foot in circumference, which have been thus far moved, is six hundred. It is too soon to express entire confidence of permanent success, but from the experience of a single summer of rather trying character, the result promises to be satisfactory and highly creditable to Mr. Bullard, the park inspector, who continues the immediate management of the planting.

The Meadowport and Nethermead arches have been completed, and the Lullwood bridge, constructed of oak on stone abutments, has been carried across an arm of the lake. These works have been under the immediate charge of Mr. E. C. Miller, assistant architect.

A building has been constructed on the parade ground, which has been designed to provide rooms for the use of the military, with apartments for a janitor, and to furnish in addition a partially enclosed shelter for the accommodation of the general public. This structure has been placed at the top of a gentle slope, which has been artificially constructed at the western extremity of the parade ground for the purposes set forth in the explanation of the design, which was included in our special report on the subject submitted for the consideration of the board prior to the commencement of operations.

The Dairy is now complete, so far as the main structure is concerned, and is ready for occupation. The need which this building is designed to serve can be met under very advantageous circumstances in the Brooklyn Park, and is of a different character altogether to that which will be responded to in the Refectory, which is the next building of importance that should be proceeded with. The latter building is intended to occupy a conspicuously prominent position in the immediate vicinity of the Breeze Hill carriage concourse, the Lookout Hill, the Lake shore, and the Nethermead, which is a stretch of greensward in the heart of the park. The Refectory is proposed to be a house of entertainment on a liberal scale, agreeably situated so far as outlook is concerned, but with no more suggestion of privacy or retirement than would be found in a suburban hotel. The Dairy, on the other hand, is intended to meet the same physical need for refreshment, but it

is designed to be used by visitors only when in search of a more thoroughly rural experience than can be looked for at any point which furnishes accommodation for an assemblage of carriages. It is, of course, impracticable anywhere within the necessary limits of a city park, to make sure that visitors shall enjoy a sense of complete rural seclusion; but the inclination which influences those who are able to go far into the country for recreation, is often strong with thousands who are in no position to leave their business and their families. While, therefore, results which would seem forced or improbable are to be avoided, it is desirable to meet this requirement on a scale that shall be adequate for the purpose. We, therefore, abandon all idea of contrasting the publicity of the city with the privacy of deep woods, mountains, lakes, and rocky fastnesses, and accept another ideal altogether, that of pastoral rural life, as the most valuable and universally available one for the purpose we have in view.

The development of the pastoral idea in its most favorable aspects is possible in a large city park, and it is the peculiar natural advantage of the ground under your control, that it offers an unusually favorable opportunity for the purpose. A stretch of greensward a mile in length, surrounded by woods, and unbroken by any carriage road, should certainly offer a field of ample dimensions for an illustration of the idea, and this we have in the Brooklyn Park. Thousands of people, without any sense of crowding, stroll about the level or undulating, sunny or shaded turf spaces that are to be found in this strip of pasture and woodland; and with a careful arrangement of the planting yet to be done, the number of visitors may be much increased, without any interference with the general suggestion.

If, as is now frequently stated in the public prints, the Brooklyn Park is in some respects more attractive than the Central Park in New York, it is because we have, from the outset, been sustained by your board in our effort to improve a considerable portion of the ground, with special reference to the development of this element of pastoral effect, in the pursuit of which we have at a few points made considerable changes in the surface of the ground, so as to connect a series of dissevered and isolated patches of comparatively level ground into one sweep of grass-land that is extensive enough to make a really permanent impression on the mind. Before this important feature in the general design can be adequately realized by the visitor, it will, of course, be

necessary that sheep and cattle should be allowed to graze in the meadows; beautiful specimens of fine breeds should be selected, and ample provision for their accommodation should be made in suitable stables, connected with an establishment of which the Dairy building would properly form the most important feature.

Full details of the progress of the work during the year, and interesting statistics of the public use of the park, will be found in the appended reports of the engineer-in-charge and his principal assistants, Mr. Bogart and Mr. Culyer.

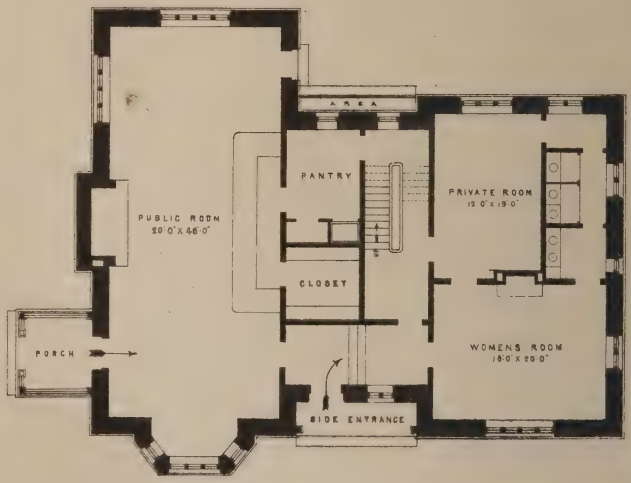
It will be observed that the public use of the park has been largely greater than it was during the previous year. It may be remarked, also, that a gratifying improvement has occurred in the character of this use; a much smaller proportion of the visits recorded having been from curiosity to examine a new thing, and a much larger part having been made with a view to family and social recreation. The number of domestic picnic parties was large, and more than two hundred and fifty Sunday schools, and other neighborly and friendly organizations, found suitable accommodations for their pleasure excursions in the woods near and opposite to the Dairy. We are strongly convinced that no other element in the design of your work compares in importance with that which is calculated to suggest, facilitate, and encourage the choice by the people of the city of simple, temperate, healthful, rural and domestic forms of recreation, instead of such as involve a liability to the development of habits of extravagance, and a morbid inclination for the unwholesome excitements of city life.

We desire, in conclusion, to draw attention to the unsettled state of the question in regard to the treatment of the land under the control of the Commission on the east side of Flatbush avenue. The fact that it continues to be impracticable to make definite calculations as to the disposition of this ground, has a prejudicial effect in reference to the general development of the park design, and the long continued delay is also attended with many practical disadvantages. The whole subject was fully discussed in our report made to your board in 1866, prior to the commencement of active operations, and again in that of last year; and we have simply now to say that the views we have heretofore expressed remain unchanged. Respectfully,

OLMSTED, VAUX & CO.,
Landscape Architects and Superintendents.

PRINCIPAL VIEW OF DAIRY

OLMSTED, VAUX & CO., LANDSCAPE ARCHITECTS



PLAN OF PRINCIPAL FLOOR

REPORT OF C. C. MARTIN,

ENGINEER IN CHARGE.

PARK COMMISSION, CITY OF BROOKLYN,
ENGINEER'S OFFICE, *January* 1*st*, 1870.

MESSRS. OLMSTED, VAUX & CO.,

Landscape Architects and Superintendents.

Gentlemen:—During the past year the work upon the park has been confined mostly to the western and central portions. The force of laborers employed has not been as large as last year, but the results of the season's work have been quite satisfactory since the labor has been concentrated upon fewer points, and these have been steadily pushed forward to completion. No strikes have occurred among the laborers, and but one among the mechanics, and that was due to an arbitrary society rule which was finally disregarded by the park employees.

ROADS.

The park drives have been constructed principally with rubble stone foundations. Heretofore the Roa Hook gravel was placed directly upon the broken stone. This season two inches of coarse gravel, with a small admixture of loam was placed upon the broken stone, and two inches of Roa Hook upon this.

By the substitution of park gravel, the cost of the drives was materially reduced, as the material was less expensive, and it packed more readily under the action of the roller. There is every reason to suppose that these drives will be equally as durable as the more expensive kind, because the wear of the vehicles will still come upon the Roa Hook gravel, and before this two inches of surface gravel is worn out the drives will require to be surfaced with fresh material. Continued and careful observations have been made on the

drives with the rubble foundation, in order to compare them with those having Telford foundations, and they have been found to compare favorably with them. The road gutters have been constructed almost exclusively of stone blocks similar to Belgian blocks, and laid upon a bed of sand one foot deep. They are much less expensive than the brick gutters, will be equally as durable, and will be much more easily repaired. There is but one serious objection to them, and that is that a large amount of surface water is lost by passing between the blocks, and thus into the ground. At this time this is immaterial, as there is an abundant supply of pure water for the lake with its present area, but when the lake is completed it will be advisable to save all of the surface water possible, in order to keep it supplied; but the probabilities are that the fine silt worked from the roads will, before that time, so effectually close up the crevices between the stones that almost no water will be lost. Should it be found that too much water is lost, a very simple, cheap and effective remedy will be to cover the surface of the block gutters with a light layer of tar concrete. This will make a gutter that will be impervious to water, and thus equally as effective as brick gutters.

Several additional experiments on tar concrete drives have been made. The specimen of drive laid by the Scrimshaw Patent Concrete Company, in the fall of 1867, has steadily improved since its construction. During the year it has had no repairs, and no expense has been put upon it except to sweep off the dust and mud brought upon it by carriages from the adjacent gravel roads. It is at the present time in perfect order. From experiments which I have made, I have been convinced that there is no difficulty to be anticipated in making repairs either from the breaking up or wearing out of the concrete material. If, from the unequal settlement of the ground, or any other causes, the concrete should crack, a section of it can be removed, and new material put in its place, without material injury to the drive surface; and when the surface has worn uneven, as it will in time, by constant use, a new surface can be laid upon the old, and the adhesion is so complete that no tendency to crack is exhibited.

Samples of the Scharf patent concrete pavement have been laid. This promises well, and if it withstands the action of the frosts, it will also make a good road surface.

Later in the season a sample of the Haider patent concrete pavement was laid on the drive. This also promises well, but time and the elements must decide the merits of this or of the Scharf pavement. The sample of Fisk concrete laid in 1867 was almost entirely

disintegrated last season, and during the past summer the patentees at their own cost, re-surfaced it, but before the season was over it had again gone to pieces. For walks it answers a better purpose, but even for walks the signs of failure are at this time becoming evident. The disintegration commences at the bottom and gradually comes to the surface.

STEAM ROAD ROLLER.

During the season the Park Commission authorized the purchase of a steam road roller from Messrs. Aveling & Porter, of Liverpool, England. It arrived in the park in August, and was immediately set up by park employees, and put to work, and from that time until the work upon the drives was suspended for the season, it worked almost constantly, and, for a great portion of the time, night and day. It effected a very marked saving in the expense of rolling. The roller weighs fifteen tons, and rolls a width of six feet. It moves either backward or forward with equal facility, and hence does not not have to be turned around on the drive, although it can be turned around in its own length, which is about twenty feet. The rollers are five feet in diameter. Although this roller may be entirely adapted to the rolling of broken stone or McAdam roads, a few modifications could be made which would improve it for rolling gravel roads. The rollers should be at least six feet in diameter, so that they would not have so great a tendency to roll the gravel up in waves before them. Secondly, the face of the roller should be straight. On this one the rollers are about five-eighths of an inch convex, and there being four of them, the effect is to produce four parallel depressions, five-eighths of an inch deep, and this is only produced by moving the gravel sidewise. This sidewise motion is prejudicial to the packing, and would be obviated by making the faces of the rollers straight, instead of convex. Again, for soft roads, park roads, with a layer of fresh gravel, three or four inches thick upon them, the traction power of this roller is scarcely sufficient. This could be obviated either by coupling the four rollers, so that they would all become driving wheels, or else by throwing more weight upon the driving wheels. The roller, as it is, effects a very great saving of expense in rolling, but the above obvious improvements would add considerably to its efficiency. The cost of running it is about ten dollars per day, and it does about twice as much effective rolling as the seven-ton park roller, which required eight horses to run it, and costs twenty dollars per day.

ARCHWAYS, BRIDGES.

The Enterdale Arch, near the main entrance, has been finished during the year. Also, the Meadowport Arch, with the exception of the wooden lining, and the Nethermead Arches, excepting the pointing up of the brickwork.

The Lullwood Bridge has been completed, and is in use. A small rustic bridge over the Ambergill has been constructed. A temporary wooden bridge has been built across the lake near the south end of Breeze Hill, to connect the finished drives on the opposite sides of the lake, until the permanent bridge shall be built. It is one hundred and eighty-four feet long, thirty-five feet wide, and fourteen feet above summer level of water in the lake.

DAIRY HOUSE.

The dairy house has been completed, and is now occupied.

THE FOUNTAIN.

The masonry of the fountain basin on the Plaza is nearly completed, and on the occasion of the unveiling of the Lincoln statue, water was, for the first time, thrown from a temporary jet. The gas, water and drainage pipes have all been put in, and are in good working order.

WALKS.

Nearly all of the walks laid on the park during the year have been made of tar concrete—a large proportion under the Scrimshaw patent, a portion under the Scharf pavement, and a portion was laid with improved Fisk pavement. All of the tar concrete walks are in good condition, although some of the Fisk concrete walks will, from present indications, require re-surfacing next season.

THE WELL.

The well for supplying the park with water is essentially completed, although some of the surroundings, as railings, engine-house roof, &c., are yet unfinished.

CONSTRUCTION OF WELL.

The method of sinking the well having been determined upon, the work was commenced as follows: an excavation about sixty feet in diameter was made to a depth of seven feet. Pieces of plank three feet long, ten inches wide, and two inches thick, were then laid upon this bottom at intervals of about three feet from center to center

upon a circle of fifty-four feet in diameter, and the whole carefully leveled. A band of wrought iron fifty-four feet in diameter, half an inch thick, and twenty-two inches wide, was then obtained and placed upon this ring of plank. The band was made of sheets about fourteen feet long, the ends of which were placed together, forming butt-joints; over these ran covering plates, three feet long, and double countersunk rivets were used to secure them. These having been put in place and brought to a true circle, a ring of oak timber, eleven inches thick, eleven inches wide on the top, and two inches wide at the bottom, was placed inside of the iron band, the thin edge resting on the short plank, and being in contact with the iron. This was securely fastened to the band by means of bolts and spikes. Upon this was laid another ring of oak timber six inches thick and twenty-four inches wide, the inner diameter of the ring being fifty feet. These two rings were securely fastened together by spikes ten inches long and half an inch square. Seven courses of oak of the same dimensions as the last were then laid up, making a total depth of timber of four feet, the whole securely spiked and bolted. The iron band reached to the top of the second six-inch course of timber, and the third course projected over its edge so as to come flush with the outside of the iron, thus forming a shoulder against which the iron could press, and which would prevent its being forced upon the outside of the curb. Forty holes were then bored through this four feet of timber, to receive the rods of one and one-half inch round iron which were sixteen feet long. These rods were passed through this mass of timber, and were held in position at the top by a turn-plate. The wall of brick masonry, two feet thick, was then commenced upon this wooden curb, and carried up to a height of ten feet, where four layers of pine timber, each six inches thick and sixteen inches wide, were introduced. These were placed in the center of the wall, and the iron rods passing through them were securely bolted down with heavy washers and nuts. The wall was now sixteen feet high, besides the cutting edge, which projected ten inches below the main wall, and was securely bolted together. While this was being done, a suitable derrick had been obtained, and so placed that the boom would swing over the wall and command the interior space also. Iron buckets for hoisting out the sand, and a six-horse-power hoisting engine were procured. Work was then commenced upon the excavation. The material from within the wall was excavated and thrown into the iron buckets, and was then hoisted out and taken away. The excavation in the center was kept below that at the sides, and when sufficiently advanced, the material from imme-

diately under the wall was removed. This was done with considerable care and uniformity, and as the excavation progressed, the wall slowly and quietly settled down. This process was continually repeated until the wall was lowered forty-one feet, when frost suspended operations last season. At the same time that the excavation was going on within the well the masons were at work carrying up the wall. The iron rods were extended within this wall to its top, but their size was reduced to one and one-fourth inches diameter. The brick wall had a battu towards the centre of half an inch per foot. The object of this was to prevent the wall from binding or getting wedged by the pressure of the earth. The result was as anticipated. The wall was regularly and uniformly settled as the excavation was made.

The work was resumed last spring, and progressed satisfactorily until the bottom of the curb was about three feet below the water-surface, when it was found to be impossible to make the excavation under the curb uniformly. The curb did not settle evenly, and cracks were produced in the wall, also an unequal pressure from the material on the outside was thrown on the wall, which produced an eccentricity of about two feet in the diameter of the well. This wall was allowed to remain in the position last indicated. Another curb similarly constituted of timber, brick and iron, was constructed, the interior diameter being thirty-five feet, the walls two feet thick, and the height ten feet, besides the cutting edge, which is of wood, and projects below the main wall one foot. This curb wall was lowered in a manner similar to the first, until its top was one foot below the surface of the water, giving a depth of twelve feet of water in the well. Work was suspended at this point, as the depth of water obtained was considered sufficient.

The method of making the excavation under water was somewhat novel, and entirely successful, reducing the expense of that portion of the work very materially. A cylinder twenty inches diameter, and forty inches long, with a closed top, was made of three-eighths inch boiler iron. The whole was made air-tight, except the bottom, which was left entirely open. In the top were two valves opening upward.

The lower edges of the cylinder were made thin and sharp. Attached to the top was a timber or stem six inches square, and eighteen feet long, and at the top of this a suitable attachment was made for a hoisting apparatus. The tackle of the derrick was made fast to this, and the cylinder was lowered away into the water, the valves were forced open and the air escaped. As soon as the

cylinder touched the bottom, the stem of the cylinder was worked backward and forward, thus forcing the cylinder into the sand by its own weight. When full of sand, the valves were closed and the whole hoisted out. As soon as the cylinder was lifted above the water, it was swung to one side, the valves opened and the contents discharged upon the platform constructed for the men to work upon. The cylinder has a capacity of seven cubic feet, and, on an average, five cubic feet of sand was lifted at each time, and a charge could be brought up every two minutes. The apparatus seemed to work as well in sixteen feet of water as in shallow depths.

ENGINE AND PUMP.

The engine is of the kind known as the Worthington duplex pumping engine; and consists essentially of two direct acting horizontal engines by the side of each other, so connected together that the motion of the one will operate the steam-valves, and change the motion of the other.

"In the 'duplex' engine, the shock at the change of the stroke is avoided by the use of two double-acting water-cylinders, and two sets of steam-cylinders; the whole so combined as to form one engine, delivering the water into a common air-chamber."

"Each pump moves to the end of its stroke, and is there compelled to rest absolutely still for as much time as will allow the water-valves to seat themselves quietly, instead of sending them to their seats violently by a premature motion. And as this piston ceases its stroke, it communicates motion to the steam-valves of the other side of the engine, so that its pump assumes the work where the first laid it down, and continues it with such uniformity that the indicating gauge will show scarcely any variation in the water pressure. The work requires rest from motion while the valves are closing and the currents subsiding; but in the force main the upward flow must be unimpaired and unbroken."

"When we examine the engine in regard to the quantity of metal in motion, we find no large masses moving, but that the power of the steam, acting direct upon the steam-piston, is transmitted through the piston-rod to the water-plunger, which is attached to the other end of the same rod, thus acting upon the water without the intervention of a greater mass of metal than the strains absolutely require. The engine being built so as to contain all these strains within itself, the foundations are smaller, and much less expensive, than those required for other classes of engines."

"The capacity of the engine is such that it will easily deliver into the reservoir one million gallons in twenty-four hours, through four hundred and sixty-five feet of twelve-inch pipe, at a height of one hundred and sixty feet."

"It is about twenty-five horse-power. It has two double-acting water-pistons; and each piston-rod passes through a high-pressure into a low-pressure cylinder, in which the steam is first used at high pressure, and afterwards at low pressure. The steam-cylinders are to be protected by a steam-jacket, and a covering of felt and black walnut; and are provided with balanced steam slide-valves. Steam water pressure and vacuum gauges are attached to the engine, and there is also to be a counter to record the number of strokes."

"There are four single-acting vertical air-pumps, worked by two half-beams. The engine draws the water from the well through a suction-pipe which delivers it into the water-cylinders. This suction-pipe is fitted at its base with a 'foot-valve,' to keep it always full of water."

The diameter of the suction-pipe is.....	12 inches.
" " water-piston is	14 "
Length of stroke	17 "
Diameter of the two high-pressure cylinders.....	14 "
" " low " "	24 "

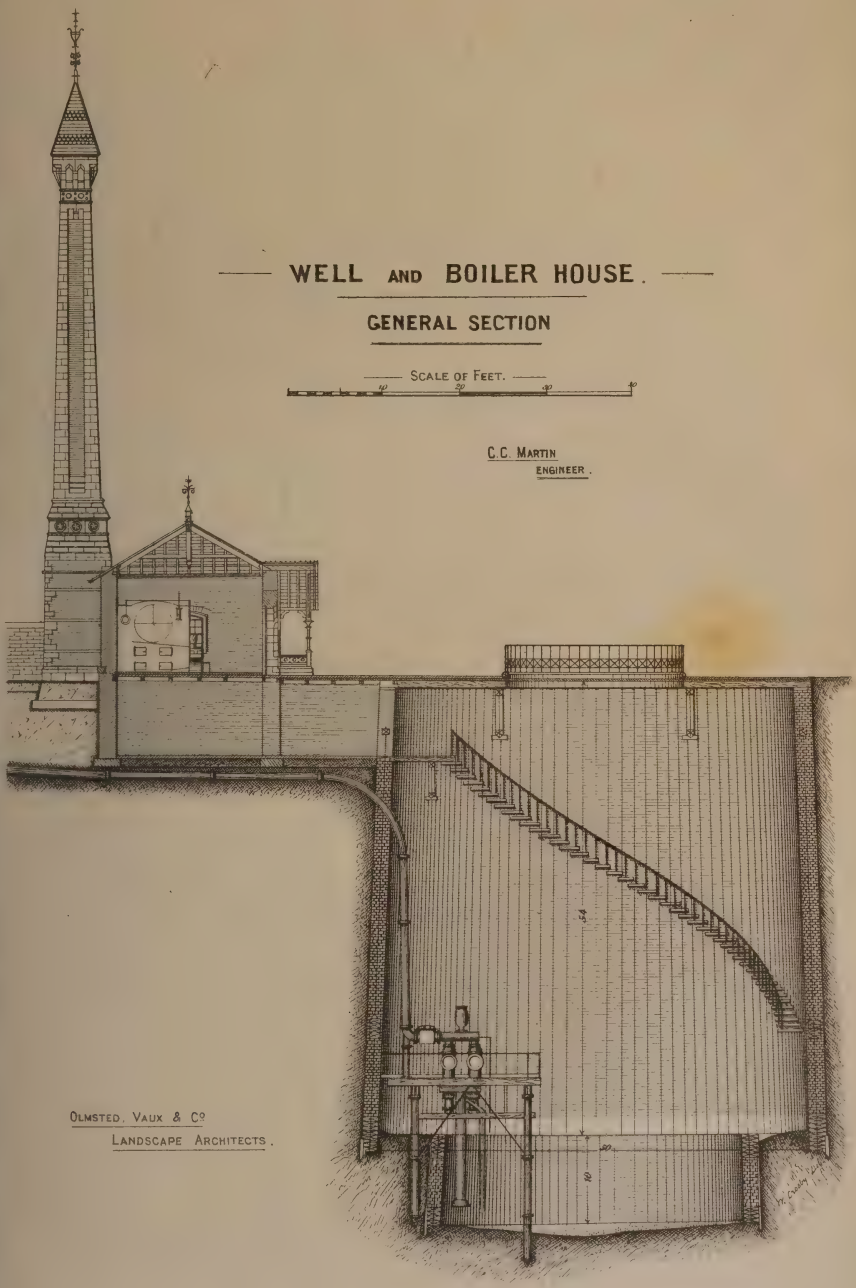
"The speed of the engine is from fifty to eighty strokes per minute, as may be desired. The ordinary speed is about sixty strokes, with the pressure of the steam forty pounds and the vacuum twenty-five inches."

BOILER.

The boiler is of the type known as the horizontal tubular. It is fifteen feet long, four feet in diameter, and contains thirty-nine tubes three inches diameter. The grate surface has an area of sixteen square feet, and the heating surface of the boiler is seven hundred and fifty square feet. The furnaces are under the shells of the boiler, the fire returning through the tubes. The boiler fronts are entirely of iron, and are very substantial and neat in appearance. The boilers are fed by a small duplex pump.

BOILER HOUSE.

The boiler house is situated on the surface of the ground near the well, and is constructed of pressed brick with Ohio stone


WELL AND BOILER HOUSE.
GENERAL SECTION
SCALE OF FEET.
10
20
30
40
C.C. MARTIN
ENGINEER.
54
10
OLMSTED, VAUX & Co
LANDSCAPE ARCHITECTS.

trimmings. The chimney is located at one corner of the house. It is ten feet square at the base, and is to be sixty feet high, and has a flue two feet square throughout. The house is completed, except the roof, and the chimney is carried up but about forty-five feet.

ENGINE AND PUMP FOUNDATION.

It was necessary to place the pumps and engine near the surface of the water in the well, and in order that they might be entirely independent of the walls of the well, which were liable to settlement, it was decided to place them on a platform carried by six cast-iron columns. These columns were made nine inches in diameter, with three-fourths inch thickness of metal, and of different lengths. They were cast with flanges on the outside, by which the sections were securely bolted together. They were sunk into the sand by a very rapid, cheap and effective method. The sections forming each column were bolted together. A cap was made to fit the top of the column, and was securely bolted to it, and in the center of this was a coupling for a two and a half inch hose. At the bottom another flange was cast with a cone projecting ten inches from its under side, with an opening at the point two and a half inches in diameter. The column thus equipped was suspended over the position it was to occupy, and suitable guides provided to insure its maintaining a vertical position in its descent. A hose was thus attached to the coupling on the cap, and connected with a small number-four Worthington pump. The pump was started, and water forced in at the top of the column and out at the bottom. As soon as the flow was fully established, the column was lowered down. The water escaping into the sand below the column, loosened it, and kept it in violent agitation, so that it offered almost no resistance to the sinking, the water escaping alongside of the column to the surface.

These columns, nine inches in diameter, with a bottom flange eighteen inches in diameter, were sunk into the sand from eight to ten feet in about eighteen minutes, when the columns were at their proper depth. So long as the pumping continued, they were loose and easily moved around in the sand; but within three minutes after the pump stopped, they were almost as firm as if set in stone, the sand having settled so compactly around them. The method was a complete success, and I see no reason why columns could not be sunk to almost any depth by the same process. Upon the tops of the columns were placed wrought iron beams carrying the floor

and pumps. Some steps were built spirally into the wall of the well, to enable visitors to reach the pump platform. A floor has been laid over the well leaving a circular opening twenty feet in diameter. The floor is supported on two isometrical trusses. The entrance to the well is through the boiler house and a side opening in the wall of the well.

FORCE MAIN.

The force main leading from the pump to the reservoir is a cast-iron pipe twelve inches in interior diameter. Its length is to be four hundred and sixty-five feet, and the elevation of the point at which it delivers the water in the reservoir is one hundred and sixty feet above the level of the water in the well, and one hundred and seventy-three feet above tide level. The main was made with bell and spigot joints, the bells being five inches deep, and the lead joints were made only three and one-fourth inches deep, the balance of the space being filled by a hempen gasket.

The force main delivers the water into the reservoir just above its high-water line. The object in pumping to this height, rather than into the bottom of the reservoir, is to insure a uniform pressure on the pumps. In the force main near the pump is placed a check-valve. This is a self-acting arrangement, by which the pressure of the water in the main is prevented from acting on the pumps while they are not in motion, and consists of an inclined partition across an enlargement of the pipe, with valves on the upper side, which are opened as the water is forced through them from the pumps, and which are closed by the pressure of the water in the pipe above them. At a distance of eighty-three feet from the well, and at an elevation of about sixty-one feet above the surface of the water in the well, there is a branch connecting with a fifteen-inch vitrified pipe, which leads to the lake near the proposed sight of the refectory. This branch will be used when it is required simply to fill the lake.

At a distance of one hundred and fifty-four feet from the well, and at an elevation of ninety feet above the water in the well, is another branch connecting with a twelve-inch cast-iron pipe leading around the base of Lookout Hill to the uppermost of a series of pools. This pipe delivers the water at an elevation of one hundred and twenty-four feet, and will be used when a supply of water is to be furnished to the pools and cascades situated in the Ambergill and Nethermead districts.

It will thus be seen that the water from the well can be delivered

at elevations of sixty-one, one hundred and twenty-four, or one hundred and sixty feet, as the case requires, thus reducing the work and cost of pumping to its minimum.

The water from the reservoir will be taken into the pipe distribution system, to be used at the hydrants, drinking fountains, &c., at different points on the park. This will constitute but a small proportion of the water required on the park. By far the largest quantity will be required to supply the loss from the lake, due to evaporation from the surface and leakage from the bottom. This water may be used to produce pools, cascades, rapids, and running brooks before it empties into the lake.

SOURCE OF WATER SUPPLY FOR THE WELL.

The ground on that portion of the park lying south of the hills, and in fact all of the south side of Long Island, is one vast bed of sand, which is generally covered by but a few feet of soil and loam. On account of this peculiar formation, a large proportion, probably sixty per cent., of the rain fall is absorbed, and passes down to what is popularly known as "the main spring." This is a body of water filling the sand, and extending under this whole district. The distance from the surface of the ground to the surface of this body of water depends upon the modulation of the ground; but the elevation of this water surface above tide level is quite uniform for equal distances from tide water, and depends upon that distance; it rises about seven feet per mile—so that, for instance, at any point two miles from tide water, the surface of this subterraneous reservoir will be about fourteen feet above tide level. The slope being known, it becomes an easy matter to calculate with great certainty the quantity of water which can be obtained from the well.

The rain fall averages something over forty inches per annum, but assuming it to be forty inches, then sixty per cent. of this, or twenty-four inches in depth of water, will reach the main spring. This quantity over a circle, with a radius of one-half a mile will give a daily supply of about nine hundred thousand gallons. To draw this supply of water to the well from a distance of one-half a mile, it will be necessary to pump the water down to a depth of about three and a half feet, and this will allow the water to take the regular slope of about seven feet per mile. The water in the well is twelve feet deep, and can readily be pumped down seven feet, and this will draw water from nearly a mile in every direction. There is, therefore, an abundant supply of water

within reach of the well, and the only remaining question was, could the requisite amount be pumped out without bringing in with it the sand in the bottom and around the well, and thus fill it up. This last question was set at rest by actual observation during a trial of the pump. It was found that when the water in the well was drawn down four and a half feet, water came in at the rate of 850,000 gallons per day, without in the least disturbing the sand in the bottom. This was on the third day the pump was run; and the rate of flow of the water towards the well will increase as pumping is continued, for the subterraneous channels will arrange themselves in directions towards the well. No doubt the bottom could be brought in, and the well ruined, by suddenly pumping the water down eight or ten feet; but if it were drawn down even to that depth gradually, no damage would occur. *The water must not be drawn down more than four and a half feet suddenly, as it cannot be done safely.*

FORT GREENE.

The work on Fort Greene has been steadily pressed during the season, and a large proportion of it is completed. The walks laid last year are in good order, and a large amount in addition have been laid this season. Mr. T. P. Kinsley remained in charge of the work, as engineer, until it was suspended in November. Mr. F. Mollard performed the duties of general foreman during the continuance of the work.

On Prospect Park, the organization of the Engineer Department remained essentially as at the last report, during the season, until the suspension of work in November, when the Engineer corps was reduced to correspond with the reduction of the labor force. For the park statistics you are respectfully referred to the reports of the assistant engineers-in-charge, herewith presented.

The assistant engineers-in-charge, Mr. John Bogart and Mr. John Y. Culyer, have performed the duties of their respective departments with skill and fidelity.

Respectfully submitted,

C. C. MARTIN,
Engineer in Charge.

REPORT OF JOHN BOGART,

ASSISTANT ENGINEER IN CHARGE.

PARK COMMISSION, CITY OF BROOKLYN,
ENGINEER'S OFFICE, *January 1st*, 1870.

C. C. MARTIN, Esq.,
Engineer in Charge.

SIR:—I submit herewith the following tabular statistics of construction of the Brooklyn parks, up to January 1st, 1870.

DRIVES.

Drives finished,	60	feet wide	379	lin. ft.
" "	52	"	277	"
" "	50	"	1,441	"
" "	46	"	5,546	"
" "	40	"	12,423	"
" "	30	"	1,500	"
" "	27	"	1,610	"
" "	23	"	1,550	"
" "	50	" (Franklin avenue)	1,860	"
Total length of drive finished			26,586	"
			or $5\frac{4}{100}$	miles.

Drives in progress,	60	feet wide	75	lin. ft.
" "	50	"	200	"
" "	40	"	1,610	"
Total			1,885	"
			or $\frac{36}{100}$	miles.

CONCOURSES.

Finished concourse for carriages,	Plaza	272,442	sup. ft.
" " "	Park	119,350	"
" " for pedestrians,	Plaza	26,742	"
" " "	Park	59,300	"
" " "	Fort Greene	78,832	"
" " "	Parade Ground	18,000	"
Total area of finished concourse		574,666	"
		or $13\frac{19}{100}$	acres.

Concourse in progress, for carriages,	Plaza.....	3,000	sup. ft.
" " "	Park.....	200,000	"
" " for pedestrians,	Park.....	80,000	"
" " "	Fort Greene.	93,960	"
" " "	Parade Gr'nd	4,000	"
Total.....		380,960	"
		or $8\frac{75}{100}$	acres.

RIDES.

Rides finished, 20 feet wide.....		3,000	lin. ft.
" " 16 "		625	"
" " 15 "		2,050	"
" " 8 "		600	"
Total.....		6,275	"
		or $1\frac{19}{100}$	miles.

Rides in progress, 20 feet wide.....		2,975	lin. ft.
" " 15 "		900	"
Total.....		3,875	"
		or $\frac{73}{100}$	miles.

WALKS.

Walks finished, 20 feet wide.....		408	lin. ft.
" " 16 "		15,540	"
" " 14 "		400	"
" " 12 "		8,875	"
" " 10 "		760	"
" " 8 "		450	"
" " $52\frac{1}{2}$ "	(Fort Greene).....	108	"
" " 16 "	"	570	"
" " 14 "	"	3,667	"
" " 12 "	"	1,831	"
" " 10 "	"	598	"
" " 8 "	"	505	"
" " 8 "	(Carroll Park).....	2,275	"
Total length of finished walks.....		35,987	"
		or $6\frac{82}{100}$	miles.

Finished walk at Prospect Park					$5\frac{1}{100}$	miles.
" at Fort Greene					$1\frac{38}{100}$	"
" at Carroll Park					$\frac{43}{100}$	"
Walks in progress, 30 feet wide					5,396	lin. ft.
" "	25	"			2,175	"
" "	20	"			7,137	"
" "	16	"			1,775	"
" "	12	"			1,900	"
" "	10	"			885	"
" "	8	"			850	"
" "	$52\frac{1}{2}$	"	(Fort Greene)		365	"
" "	16	"	"		150	"
" "	14	"	"		797	"
" "	12	"	"		50	"
" "	10	"	"		35	"
Total					21,515	"
					or $4\frac{7}{100}$	miles.

DRAINAGE.

18 inch Vitrified pipe laid				1,692	lin. ft.
15 " "	"			7,899	"
12 " "	"			9,144	"
10 " "	"			1,947	"
8 " "	"			8,988	"
7 " "	"			305	"
6 " "	"			19,813	"
5 " "	"			1,619	"
4 " "	"			2,496	"
$2\frac{1}{2}$ " "	"			675	"
10 " "	"	(Fort Greene)		315	"
8 " "	"	"		680	"
6 " "	"	"		2,066	"
5 " "	"	"		1,234	"
4 " "	"	"		2,707	"
6 " "	"	(Carroll Park)		97	"
4 " "	"	"		310	"
6 " Cement	"	"		142	"
Total				62,129	"
				or $11\frac{77}{100}$	miles.

Tile pipe laid, 3 inch	19,345	lin. ft.
" " $2\frac{1}{2}$ "	25	"
" " 2 "	27,110	"
" " $1\frac{1}{2}$ "	7,332	"
Total	53,812	"
	or $10\frac{19}{100}$	miles.

WATER DISTRIBUTION.

Wrought iron and cement pipe, 16 inch	3,023	lin. ft.
" " " 12 "	2,548	"
" " " 6 "	10,550	"
" " " 4 "	3,351	"
Total	19,472	"
	or $3\frac{69}{100}$	miles.
Cast iron pipe, 20 inch	347	lin. ft.
" " 16 "	29	"
" " 12 "	2,515	"
" " 8 "	191	"
" " 6 "	43	"
" " 4 "	8	"
" " 3 "	53	"
" " $2\frac{1}{2}$ "	10	"
" " $1\frac{1}{2}$ " galvanized	450	"
" " 1 " "	1,427	"
Total	5,073	"
	or $\frac{96}{100}$	miles.
Lead and tin pipe, $\frac{3}{4}$ inch	802	lin. ft.
" " $\frac{1}{2}$ " (Fort Greene)	294	"
" " $\frac{3}{8}$ " "	1,064	"
Total	2,160	"
	or $\frac{41}{100}$	miles.

Blow-offs and branches	74
Stop-cocks	38
Air-cocks	12
Hydrants	33
Reducers	4
Metres	2
Stop-cocks (Fort Greene)	11

Gas pipe laid, 4 inch	700	lin. ft.
" 3 "	88	"
Total	788	"
	or $\frac{15}{100}$	miles.
Iron fence set (Fort Greene)	703	lin. ft.

AREA OF OPERATIONS UP TO JANUARY 1ST, 1870.

Area worked over up to January 1st, 1870	352½	acres.
" " " (Fort Greene)	30	"
Surface finished, meadows and slopes	153	"
" " woodland	40	"
" " water surfaces	14	"
" " roads and walks	48	"
Total	255	"
Surface seeded	170	acres.
Surface finished (Fort Greene)	22	"

MASONRY.

Amount of brick masonry	2,922	cu. yds.
" " (Fort Greene)	75	"
" stone masonry	5,986	"
" " (Fort Greene)	89	"
" concrete	1,758	"
" " (Fort Greene)	57	"
" steps set	4,779	lin. ft.
" " (Fort Greene)	214	"
" curb set	67,624	"
" " (Fort Greene)	677	"
" Belgian pavement laid	295,152	sup. ft.
" cobble " "	52,816	"
" brick " "	20,520	"
" " gutter "	20,268	"
" Telford " "	49,709	"
" cobble " "	15,880	"
" flag stone " "	6,760	"
Tar concrete pavement laid	360,136	sup. ft.
" " " (Fort Greene)	176,944	"

AMOUNT OF STONE BROKEN.

McAdam stone by stone breaker	16,214	cu. yds.
Telford and building stone by hand	8,943	"
" " " (Fort Greene)	2,569	"
Spall stone by hand	12,920	"

MATERIAL MOVED.

		During 1869.	Total to Jan. 1st, 1870.
For grading and shaping drives, rides, walks, meadows, and slopes	Cub. yds.	144,844	416,370
For lakes, pools, and streams	"	126,136	481,058
For Plaza	"		172,355
For sewers, drains and water distribution	"	32,678	85,842
Soil	"	80,760	410,772
Peat	"	20,546	66,566
Clay	"	2,274	30,150
Manures and compost	"	10,700	36,100
Stone	"	19,305	83,266
Gravel and sand	"	25,147	85,367
Miscellaneous	"	3,822	18,446
Total cubic yards		466,212	1,886,292
Material moved at Fort Greene	"	32,532	89,914
Total cubic yards		498,744	1,976,206

ENGINEER CORPS.

The assistant engineers, Mr. Wilson Crosby and Mr. James C. Aldrich, at Prospect Park, and Mr. T. P. Kinsley, at Fort Greene, have been actively and efficiently engaged in the immediate supervision of the engineer corps during the season.

Respectfully submitted,

JOHN BOGART,
Assistant Engineer in Charge.

REPORT OF JOHN Y. CULYER,

ASSISTANT ENGINEER IN CHARGE.

PROSPECT PARK, BROOKLYN, Dec. 31st, 1869.

C. C. MARTIN, Esq.,
Engineer in Charge.

Dear Sir: You will find herewith a report of the means and materials employed in the construction and maintenance of the several parks under the jurisdiction of the Commission, for the year ending December 31st, 1869, together with an inventory of tools and supplies, and the statistics of the force, and other details, for the same period.

FORCE.

During the working season, the average of men employed was 813, being a less force than has been engaged during any previous season of the same duration.

The work has been prosecuted mainly within the district lying on the westerly side of the park area, commencing with the unfinished ground near the main entrance on the Plaza, then running parallel with Ninth avenue, and including the main west or circuit drive, through the Litchfield and adjoining properties, and also comprehends the construction of the drive to Lookout Hill, the Nethermead arches, and work on adjoining territory.

In addition to this, a large amount of work was done in the lake district during the early part of the year.

A considerable force of masons and stone-cutters was employed upon the construction of Meadowport and Nethermead arches, the well, boiler house, and fountain basin, and the stonework of the frame house.

A force of carpenters was employed to complete the wood work of Lullwood bridge, the farm house, the well, the temporary bridge

connecting the drive from Vanderbilt Hill with Breeze Hill, and also on a large amount of current detail labor incident to the general progress of the work.

The following statement shows the average number of employed force during each month of the year, and also for the preceding years since the organization of the work in 1866:

Statement showing the average number of employed force for the months and years noted.

Active operations commenced on the park in the latter part of the month of June, 1866.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1866.....	.....	.....	.....	.....	.....	300	335	450	550	620	700	725
1867.....	700	630	410	800	1000	1150	1200	1525	1750	1825	1800	1100
1868.....	944	812	508	1215	1047	1189	1095	1090	1116	1118	1167	912
1869.....	740	698	746	946	959	988	991	1060	975	946	552	204

The following is an exhibit of the days during which the main force was employed, and of the days when the weather partially or entirely prevented the prosecution of the work:

Whole number of full days when the main force was employed 250

Whole number of days when the weather interrupted the work 57

FORT GREENE.

The work at Fort Greene has been prosecuted during the past year under the direction of our assistant engineer, our general foreman of field work, and a small force varying from 35 men in January and February, to an average of 60 or 70 during the summer and early fall season.

The work was entirely suspended November 10th. In January, February and March, one foreman with one gang of men was employed. Subsequently two foremen and two gangs of men were engaged until the close of the season. The period covered repre-

sents 269 working days. During this time the work was interrupted by storms on 50 days. The following table shows the average number employed at Fort Greene, by months, during the years 1868 and 1869:

Work begun June, 1868. Work suspended December, 1869.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1868.....	.....	.....	.....	.....	.....	96	89	133	136	139	132	72
1869.....	36	35	41	80	79	69	68	61	66	58	50	.....

ORGANIZATION.

The force for the year was made up as follows:

FOR GENERAL CONSTRUCTION WORK.

One general foreman.
Two assistant general foremen.
Nine barrow gangs (one at Fort Greene), average 32 men each.
Six cart gangs (one at Fort Greene), average 20 men each, 25 carts.
Two team gangs, average 20 men each, 25 teams.
One stone-breaking gang, average 8 men each.
Three miscellaneous gangs, average 40 men.

Of this force, 12 men, 1 team, and 5 sprinkling carts were required for the work of maintenance, cleaning of roads, basins, and water-ways; to which is added a force of gardeners in the spring and summer, for the care of shrubbery, mowing, &c.

MECHANICAL FORCE—STONE-CUTTERS, STONE AND BRICK MASONS.

One general foreman.
One foreman of stone-cutters, 45 stone-cutters.
Two foremen of stone-masons, average 15 masons each.
One foreman of brick-masons, 9 brick-masons.

CARPENTER AND BLACKSMITH FORCE.

One foreman of carpenters, 21 carpenters.
One foreman of rustic work, 4 rustic carpenters.
One foreman of blacksmiths, 5 blacksmiths, 5 helpers.

PLANTING AND GARDENING FORCE.

One foreman.
Eight master gardeners.
Fifteen skilled laborers.
One hundred and fourteen laborers.

The gardener's force is under the supervision and direction of the park inspector, Mr. O. C. Bullard.

The division and arrangements of labor remain the same as heretofore, as does also the keeping of time and accounts of work, and of complete vouchers and records.

DISCIPLINE.

Tne following is an abstract of the record regarding promotions, suspensions and discharges occurring during the year:

APPOINTMENTS AND PROMOTIONS.

Number of foremen appointed	1
Number of laborers promoted to assistant foremen	1
Number of assistant foremen promoted to foremen	1
Resignation of foremen	2

SUSPENSIONS.

Number of assistant general foremen suspended for infraction of rules	1
Number of foremen suspended for breach of discipline	8
Number of assistant foremen suspended for breach of discipline	4
Number of laborers suspended for breach of discipline	155

DISCHARGES.

Number of foremen discharged for breach of discipline	2
Number of assistant foremen discharged for inefficiency	1
Number of laborers discharged for inefficiency	357
Number of laborers discharged for intoxication and neglect of duty	49

ACCIDENTS.

Six laborers were injured on the work, and two died in consequence of injuries they received. A small boy was run over and killed by a truck belonging to a contractor.

A number of cases of sunstroke occurred during the extreme heat of the summer, none of which resulted fatally, owing, it is believed, to the prompt application of the remedies provided by the Commission for such cases.

KEEPERS AND PUBLIC USE OF THE PARKS.

This force, as organized the preceding year, remained unchanged up to November 30th, when, in consequence of the general suspen-

sion of work on the park, a temporary reduction was made in the number employed.

The force consists of two head keepers, one station officer, six wardens, sixteen range keepers, and thirty post keepers.

A reduction was made November 30th of two wardens, four range keepers and six post keepers, together with six subordinate employees.

The service has been distributed as follows:

16 rangers, Prospect Park.
24 post keepers, Prospect Park.
3 post keepers, Fort Greene.
2 post keepers, Carroll Park.
1 post keeper, City Park.

And comprehends a daily inspection by a head keeper of all the smaller parks under the jurisdiction of the Commissioners.

It is to be observed in this connection that the area now made use of by the public is much larger in extent than it was last year, and that the number of visitors making use of the park is greatly in advance of last season, the natural result being that the duties and responsibilities of the keeper force have been proportionately increased.

During the year one ranger and two post keepers have resigned. Two post keepers have been promoted to the grade of range keepers. One death has occurred in the grade of post keepers. Five range keepers and nine post keepers have been suspended for breach of discipline. Two range keepers and ten post keepers have been discharged for neglect of duty and inefficiency.

ARRESTS.

Thirty-three arrests were made during the year, of which the following is a summary:

For fast driving	4
For injuring trees and shrubbery	2
For disorderly conduct and intoxication	23
For interfering with keepers	3
For violation of ordinance on Fort Greene	1

Besides the above, a number of minor offences were disposed of by caution or reprimand, by the station officer, or the keeper under whose observation they occurred.

Twelve lost children were restored to their homes.

IMPOUNDED ANIMALS.

The annoyance resulting from cattle, goats and swine running at large is abating. One hundred and fifty-four animals were impounded, which were redeemed by their owners on payment of fines and charges, or sold to pay expenses.

PUBLIC USE OF THE PARKS.

During the year records have been made of the number of people visiting the park, and the results in detail will be found in the following statement. The whole number for the year is 2,958,539, which is 822,197, or 38 per cent. in advance of last year.

A marked increase in the number of persons driving in the park is also noticeable, 714,240 vehicles having entered the park.

This is 292,642, or 69 per cent., in advance of the preceding season.

STATEMENT SHOWING THE NUMBER OF VISITORS AT PROSPECT PARK DURING THE YEARS 1868 AND 1869.

	Vehicles.		Equestrians.		Pedestrians.		Total Visitors.	
	1868.	1869.	1868.	1869.	1868.	1869.	1868.	1869.
January..	11,440	36,719	1,301	4,031	62,012	73,500	94,443	187,688
February..	16,476	37,888	510	4,960	43,504	81,761	90,982	150,385
March....	16,085	43,740	3,304	6,380	27,281	32,820	75,933	190,420
April.....	19,089	53,430	5,287	4,671	25,942	45,125	88,502	210,086
May.....	38,871	75,636	7,623	11,242	69,478	65,049	194,457	303,199
June.....	65,485	82,620	8,825	7,884	102,544	87,441	308,988	343,185
July.....	52,877	68,226	5,214	5,133	98,967	102,203	266,821	312,014
August,..	51,133	80,339	6,369	4,270	117,425	91,315	277,193	336,602
September	37,349	70,717	4,863	5,072	60,322	74,667	177,242	291,890
October..	49,684	80,417	8,329	7,163	72,325	98,305	229,942	346,719
November	44,909	50,073	10,113	5,847	44,027	29,091	188,247	185,157
December	18,200	34,435	3,180	3,101	86,056	14,788	144,042	121,194
Total...	421,598	714,240	64,918	69,754	808,383	746,065	2,136,792	2,958,539

The largest number of visitors on any one day was 41,425, October 24th.

720,888 persons visited the park on Sundays.

69,754 equestrians have made use of the park. This is 4,836 in excess of the preceding year.

About two and a half miles of new drive was opened to public use simultaneously with the inauguration of the Lincoln statue, October 21st. 32,439 persons entered the gates of the park on that day. In addition to these, several thousand persons witnessed the ceremonies at the Plaza, without entering the park.

During the year a piece of ground, one and one-third acres in area, was prepared and set apart for velocipede riders. Velocipedes were also permitted on the walks of the park, but no great use was made of either of their privilege, and beyond the occurrence of several slight accidents, there is nothing to record in regard to this branch of the public amusement.

In the early fall, the turf upon the most of the larger open spaces of the park having become firm and close, the public was allowed free range over it. The privilege gave great satisfaction to many, and was not found inconsistent with the maintenance of good order or the preservation of the turf.

During the summer and fine fall weather the west woods were in constant use for large social parties and the pic-nics of friendly associations, Sunday schools, church and temperance societies. There have been two hundred of these during the season. In addition, a large number of smaller family festivals were noted. The use of these grounds, and of the privileges thus accorded to visitors, has been marked by good order and a ready compliance with established regulations. Tables, seats and swings were provided, as heretofore, without charge. No accident has occurred.

PARADE GROUND.

This ground has been in good serviceable condition during the season, frequent mowings having rendered the turf strong and compact. There have been twelve parades, one division parade, three brigade parades, and eight regimental and battalion parades. The grounds have also been made use of by about fifty cricket, base ball and la crosse clubs.

SKATING.

There were twenty-two days of skating this year, as follows: Sixteen in January, two in February, and four in March. The pond

area, obtained by a temporary dam across the incompleted excavations of the lake, in use for skating, was twelve acres. A new movable house, with convenient accommodations for the public, 168 feet by 28 feet, was provided; during this period 75,000 visits were made to the pond.

TREES AND SHRUBS.

The following statements show the number of deciduous trees shrubs, evergreens, etc., purchased; also the stock on hand, together with the number that have been planted during the year.

On Prospect Park.

STATEMENT SHOWING THE NUMBER OF TREES, SHRUBS, ETC., RECEIVED DURING THE YEAR ENDING DECEMBER 31st, 1869.

Deciduous Trees.	Deciduous Shrubs.	Evergreens.	Vines.	Ferns.	Herbaceous Plants.	Bedding Plants.	Aggregate.
5,787	8,167	19,784	852	2,600	2,696	282	40,168

STOCK IN NURSERY, DECEMBER 31st, 1869.

Deciduous Trees.	Evergreens.	Deciduous Shrubs.	Vines.	Herbaceous Plants..	Ferns.	Aggregate.
22,130	32,834	44,525	3,707	1,492	3,000	107,688

STATEMENT SHOWING THE NUMBER OF TREES, SHRUBS, ETC., SET IN PERMANENT PLANTATIONS DURING THE YEAR.

Deciduous Trees.	Ever-greens.	Deciduous Shrubs.	Vines.	Herbaceous Plants.	Ferns.	Bedding Plants.	Aggregate.
3,030	9,386	17,786	2,634	6,814	3,360	282	43,292

Fifty-two deciduous trees of fine character, and five deciduous shrubs, were presented by Mr. Henry Struybring. Five deciduous trees, twenty-six deciduous shrubs, and eight evergreens, by Mr. S. R. Trowbridge. One very fine American elm by Mr. Cooper.

FORT GREENE.

STATEMENT SHOWING THE NUMBER OF TREES, SHRUBS, ETC., PLANTED AT FORT GREENE DURING THE YEAR.

Deciduous Trees.	Deciduous Shrubs.	Evergreens.	Vines.	Herbaceous Plants.	Aggregate.
1,079	6,357	3,721	108	52	11,317

Seven shrubs and two other plants were presented by Mrs. Burtis.

CARROLL PARK.

STATEMENT SHOWING THE NUMBER OF TREES, SHRUBS, ETC., PLANTED AT CARROLL PARK DURING THE YEAR.

Deciduous Trees.	Evergreens.	Deciduous Shrubs.	Vines.	Aggregate.
9	25	308	19	361

A choice collection of deciduous shrubs and evergreens, imported from England, were received in excellent condition. A part of these is included among the stock planted this season, and the remainder form a part of the stock on hand for future operations.

Two large trucks, especially adapted to the moving of large trees, were constructed on the work in 1867, and have been in successful and constant operation in the seasons proper for such work since that time.

Between five hundred and six hundred trees, ranging from four inches to seventeen inches diameter, measured three feet from the ground, have been taken up and transplanted from one to another point more or less distant on the park, or from the outside, with entire success. Not more than six have died that have been thus moved.

The largest tree moved measured seventeen inches in diameter at three feet from the ground, and weighed, with the ball of earth attached to the roots, fifteen tons. It was carried a distance of half a mile, and so far as its present appearance indicates, without material injury.

GENERAL STATISTICS.

The following is a list of structures, &c., completed or advanced in construction during the year. The Nethermead arches, of Ohio sandstone and Quincy granite, 108 ft. 6 in. long, and 56 ft. 6 in. wide, comprising three arches, two each of 20 ft. span, and a central span 22 ft. The Meadowport arch, of Ohio sandstone, 83 ft. 6 in. in length, 20 ft. span, with groined arch 30 ft.

The Lullwood bridge, at the north end of the lake, 90 ft. span, 20 ft. wide, constructed of white oak, on granite piers and abutments.

One locust rustic bridge, over the Binnen-water, 35 feet span and 16 feet wide.

One rustic arbor, on the east shore of the lake, 111 feet in length, 16 feet wide, and 8 feet high.

One temporary bridge over the lake, of pine and spruce, connecting the line of drive from Breeze hill to Lookout hill, 36 feet wide, and 208 feet span, 22 feet above the level of water in the lake.

One temporary building, 40 by 60 feet, for pattern room for bridge work and other structures.

The farm-house is completed.

THE WELL.

The curbs are completed and in position; a covering placed on the same; and the railing around the opening and on the platform and steps in the well is in progress.

A boiler-house, 42 ft. 6 in. by 20 ft. 6 in., with chimney 8 ft. 6 in. at base, of Croton brick and Ohio stone trimmings, has been partially constructed, and work interrupted by frost and suspended.

THE FOUNTAIN.

The granite for the steps, platform and coping, for the fountain basin at the Plaza, have mainly been delivered by the contractor and are in part in place in the work.

Three flag-staffs, 70 feet high and 17 inches in diameter at the base, have been permanently set in their position at the Plaza; and three large flags, 30 ft. by 40 ft., severally bearing emblems and the mottoes of the United States, the State of New York, and city of Brooklyn, have been prepared for use on public occasions and holidays.

PARK FURNITURE.

Fifty-two rustic seats of sassafras and cedar have been made and placed about the park.

Two canvas field umbrellas, with camp chairs, were placed on the turf near the children's play-ground.

There have been added to the furniture of the park:

26 Rustic ordnance stands,
800 Rustic bird-houses,
75 Park settees of iron and wood, each 7 feet long,
30 " " " 5 "
30 " " " 4 "
1 New drinking fountain of granite.

During the past season, two temporary places for refreshment, established the preceding season, and found to extend desired facilities to the public, were continued.

Numerous water stations were established, to which fresh cool water was supplied.

The swings and scups in the East and West woods have been kept in repair, and have been in constant use during fine weather.

The birds peculiar to the woods of this section, secure from annoyance, are already increasing in numbers upon the park quite noticeably. The English sparrows are familiar visitors, and numbers of them are becoming permanent lodgers on the park.

PARADE GROUND.

A shelter house, with suitable accommodations for the use of the military of Kings county, was erected during the year, of the following dimensions:

Main building, 40 ft. by 40 ft.,
Two wings, each 50 ft. by 14 ft.,

with additions to the same on each end, 14 ft. by 20 ft.; the whole covering an area of 3,560 superficial feet.

FORT GREENE.

A trellis of worked timber has been constructed at this park, on the hill, 200 ft. by 200 ft., 14½ ft. in height in center, and 12½ ft. in the wings, and contains under shelter 48 seats, each 16 ft. 8 in. long; one drinking fountain of granite; also two additional drinking places were provided, to which cool water was constantly supplied during the summer. Two temporary water closets and one urinal were erected.

Two hundred and thirty feet of new iron fence was placed on the boundary line of the park and hospital property.

CITY PARK.

Eight gate entrances at this park have been re-arranged, and new gates supplied.

SUPPLIES.

TOOLS, IMPLEMENTS AND MACHINERY.

From the accompanying statement of material received and used on the work, and now in stock, it will be seen that there is now on hand a large general supply of tools and implements for future operations. Of the more extensive appliances, such as derricks, derrick gearing, trucks, road rollers, &c., the supply is in excellent condition, and will be sufficient for any ordinary future demands of the work.

A steam road roller of fifteen tons weight was received from England in good order, and has been in use during the latter part of the year.

One ten ton wall builder for moving stone was purchased.

STONE AND BRICK.

During the season 315 cubic yards of foundation stone have been received.

1,763 cubic feet of	Ohio sandstone,	Selected stone, quarried, and worked to dimensions.
9,000 " "	Maine granite,	
1,785 " "	Quincy granite,	

A supply of brick for the completion of the reservoir is on hand.

GRAVEL.

8,342 cubic yards of gravel was purchased; 7,342 cubic yards of this was used for construction, with 1,000 yards required for maintenance.

HORSES, ETC.

There are eight horses belonging to the Commission, six of them are in daily use on the field as teams, and two for general use of the officers of the park, and are in good working condition.

In view of the accumulation of machinery, implements and supplies needed for current and general demands of the work, the selection and use of a permanent site for storage yard is desirable.

ANIMALS AND BIRDS.

The following animals and birds were presented to the Commissioners:

One camel, One fox,
One peccary, One eagle,
One hawk.

Not having suitable accommodations for them, they were temporarily transferred to the care of the Central Park Commissioners, in accordance with an understanding that leaves them subject to withdrawal whenever it may be deemed desirable to establish a zoological collection on the Brooklyn Park.

FERTILIZING MATERIALS.

Statement of manure and fertilizing material, received and on hand:

PROSPECT PARK.

338 two-horse loads horse manure.

FORT GREENE.

122 two-horse loads horse manure.
1,978 one-horse loads street manure.

STATEMENT OF MATERIAL ON HAND.

PROSPECT PARK.

Stable manure, compost	387	cubic yards.
Night soil "	2,314	"
Fish "	420	"
Peat and lime "	11,373	"

FORT GREENE.

Stable manure, compost	267	cubic yards.

METEOROLOGY.

The system of meteorological observations, which was begun in the month of July, 1868, has been continued throughout the year. These have been made and recorded three times daily.

The extent and thoroughness of such records depend largely upon the completeness of the system, and character of the instruments used. Our supply has been only partial, and the observations taken were necessarily incomplete, though entirely reliable to the extent afforded by the instruments. With reference to the Commission,

these records would appear to have little value, but the constantly growing interest throughout the country in this popular branch of science at once suggests the importance of the subject.

Successful agriculture and other industries depend largely upon the conditions of the atmosphere and temperature. Meteorology alone affords us an intelligent comprehension of these phenomena. Data, compiled from its observations, are regarded by the scientific as among the most valuable contributions to the statistics of the country. Progress in the science is to be mainly anticipated from study at the office established for that purpose at Washington, of accurate records of observations made simultaneously at a very large number of stations in all parts of the country.

The situation of the park, and the character of its organization, make it by far the best station for the purpose in this vicinity. The apparatus at present in use is very simple and incomplete. If the Commission should think proper to appropriate five hundred dollars to its enlargement and improvement, the observations which might be taken, without any additional current expense, would be of much higher value.

A faithful and intelligent attention to duty has characterized the services of the several assistants employed in my department.

Respectfully submitted,

JOHN Y. CULYER,

Assistant Engineer in Charge.

DESIGN FOR OBSERVATORY TO BE ERECTED ON LOOK-OUT HILL.

PROSPECT PARK.

ELEVENTH ANNUAL REPORT

OF THE

COMMISSIONERS OF PROSPECT PARK.

JANUARY, 1871.

COMMISSIONERS.

JAMES S. T. STRANAHAN,
JOHN H. PRENTICE,
EDWARDS W. FISKE,
WILLIAM MARSHALL,
ABIEL A. LOW,
SEYMOUR L. HUSTED,
ABRAHAM B. BAYLIS,
STEPHEN HAYNES,
ISAAC VAN ANDEN,
MARTIN KALBFLEISCH, *Ex off.*

PRESIDENT.

JAMES S. T. STRANAHAN.

SECRETARY.

JOHN H. PRENTICE.

COMPTROLLER AND COUNSEL.

JOHN N. TAYLOR.

LANDSCAPE ARCHITECTS AND SUPERINTENDENTS.

OLMSTED, VAUX & CO.

ENGINEER IN CHARGE.

JOHN BOGART.

ASSISTANT ENGINEER.

JOHN Y. CULYER.

CLERK.

FRANCIS G. QUEVEDO.

STANDING COMMITTEES OF THE BOARD.

EXECUTIVE COMMITTEE.

JOHN H. PRENTICE, STEPHEN HAYNES,
SEYMOUR L. HUSTED, EDWARDS W. FISKE,
ISAAC VAN ANDEN.

FINANCE COMMITTEE.

ABRAHAM B. BAYLIS, ABIEL A. LOW,
MARTIN KALBFLESICH, WILLIAM MARSHALL.

AUDITING COMMITTEE.

ISAAC VAN ANDEN, JOHN H. PRENTICE.

ELEVENTH ANNUAL REPORT

OF THE

COMMISSIONERS OF PROSPECT PARK.

To the Honorable the Mayor and Common Council of the City of Brooklyn:

The Brooklyn Park Commissioners herewith submit a Report of their proceedings for the year 1870, including a detailed statement of their receipts and expenditures for the same period.

It will be remembered, that in their last Report, and, indeed, in several prior Reports, the Commissioners urged the propriety, if not the necessity, especially in view of the city's present extended financial engagements, of selling a portion of that section of park land which lies east of Flatbush avenue, and which, in their judgment, it was not expedient to improve for park purposes. A large majority of our taxpayers concurring in the recommendation, application was made to the Legislature to extinguish the park easement to which the land was then subject, and authorize its sale for the benefit of the city. An act was accordingly passed on the 23d of April, 1870, directing the Commissioners to contract and sell, on behalf of the city, at public auction, and upon such terms and conditions as they should deem expedient, all that part of the park which lies east of Flatbush avenue, excepting and reserving such lands around the reservoir, and along the avenue, not less than two hundred and fifty feet in width, as the Commissioners should think it desirable to retain for public use.

The act further directed that all moneys received from such

sales should be paid over to the Commissioners of the Sinking Fund, for the redemption of the bonds issued by the city for the purchase and improvement of the park. And as preparatory to the making of sales, the Commissioners were authorized to regulate, drain, and grade the lands proposed to be sold, and to lay out such streets and avenues thereon as they might think proper, and further to improve the land in their discretion, at a total expense not exceeding one hundred thousand dollars.

The legality of this act of the Legislature was, however, questioned by some of our citizens, who urged that the city had no saleable interest in the land, forasmuch as it was taken for the purposes of a park only, and that if it ceased to be used as such, the right of possession would at once revert to its original owners. They further urged, that in any event the land had been pledged to the bondholders, for the payment of the bonds issued by the city for its purchase, and was also virtually pledged for park purposes to the owners of adjacent property, whose taxes had been largely increased by means of the improvement of the park. And for these reasons they claimed that the city could not make a good title to the land in the event of a sale.

Notwithstanding these suggestions, and with a view of testing, at as early a day as practicable, the validity of this act of the Legislature, and the right of the city to make an absolute sale of the property, the Commissioners at once proceeded to sell a portion of the land at public auction. The purchaser, however, acting under the advice of counsel, subsequently declined to accept a deed, or to pay the purchase money. Whereupon an action to enforce a specific performance of the contract of sale was commenced in the Supreme Court, and a case having been made thereon, was speedily submitted to the General Term, and judgment rendered in favor of the Commissioners. The opinion of the court, as delivered by the Hon. Justice Gilbert, and concurred in by all the other judges, will be found appended to this Report. The purchaser immediately appealed to the court of last resort, but the Commissioners entertain no doubt that the judgment of the Supreme Court, at least so far as relates to the right of the city to sell and convey the land in fee, will be fully sustained by the Court of Appeals.

The only impediment suggested by a more matured consideration of the questions involved in the case, and developed by the discussion in the court below, refers to the technical lien which the bondholders have to some extent upon all park lands, and which may cast a shade—not upon the city's title, for this is unquestionable, but upon its ability to extinguish the lien, by any shorter or more direct method than that which has been provided by the law creating it.

The Commissioners, in a former Report, expressed the opinion that the interests of the bondholders would be effectually protected, by placing the proceeds of sale in the hands of the Commissioners of the Sinking Fund, for the redemption of these bonds, and they are still of the same opinion. But if a strict construction of this provision of law shall prevail, it may be proper to consider whether any, and if so, what importance is to be attached to the objection, and whether it is likely to operate injuriously upon the market value of the property when offered for sale.

In the first place, it is to be observed that all the city's property, including its small parks, City Hall, schools, and engine houses, is pledged for the payment of its debts, including the park debt; but that, of course, the pledge can never be enforced so long as the city is solvent, and facilities for taxation are not withheld. Next, the law creating the park debt provides a mode of gradual payment by annual tax. This provision will certainly extinguish the debt at maturity, and it can not, moreover, upon constitutional principles, be repealed, or in any manner interfered with, so long as the debt, or any part of it, exists. And lastly, if we may be allowed to suggest so improbable an event as the city's inability to discharge its legal obligations, it is certain that when a creditor proceeds to foreclose his lien, he is always obliged, upon well-established principles of equity, to exhaust his remedy against so much of the pledged property as remains unsold, before he will be allowed to resort to that which the pledger has previously disposed of. Supposing, then, the bondholders lien upon property on the east side of Flatbush avenue to remain after a sale has taken place, they will, in case they shall be obliged to foreclose it for the payment of their claim, be compelled to sell all the small parks, with more than five hundred acres of valuable

improved land on the west side, in addition to the large reserved section bordering on the east of the avenue, before they will be allowed to touch any of the residue which shall in the meantime have been sold by the Commissioners.

With so complete a protection to the purchaser, independent of the city's covenant of indemnity to be embraced in the conveyance, the Commissioners do not apprehend any difficulty in making a fair sale of the property, after they shall have matured a plan for its improvement. Nor do they believe that so unsubstantial and technical an objection will operate to the prejudice of the sale in the estimation of any considerate person.

In their last communication to the Common Council, the Commissioners stated that they had reached the limit of expenditure authorized by law for park improvement, and that a considerable portion of the park, mainly that which had recently been acquired, yet remained to be improved. This suggestion having been made to the Legislature, further facilities were at once granted for carrying on the work by the passage of an act authorizing an expenditure of five hundred thousand dollars in each year, for four successive years. As soon as the requisite municipal action could be obtained under this law, and funds necessary for the purpose were secured, active operations on the park were resumed, and have since been vigorously prosecuted. But it was not until the season had advanced far beyond the usual time for commencing spring work, that the Commissioners were enabled to command sufficient means to justify them in proceeding with the rapidity which had hitherto characterized their movements.

A large amount of work, however, has been done during the year, and Prospect Park is fast verging to completion. The coming season will, in all probability, see the lake, with the entire drive around its margin, finished; an ornamental, as well as useful, shelter erected upon the carriage concourse; and an enlarged and much improved pedestrian concourse, with seats, for the convenience of visitors, on the eastern side of the lake. For a full detail of operations upon the several parks under the charge of the Board, up to the close of the year, with a description of several interesting works now in progress thereon, reference is respectfully made to the subjoined reports of our landscape architects and engineers.

The number of those who resort to the park increases faster than it seems possible to extend facilities for their reception, the ratio of increase being evidently greater than the city's gain in population. The Commissioners, however, believe that after the proposed rides, drives, and walks have been fully carried out; and thrown open to public use, ample accommodation for locomotion to all parts of the park will be afforded for visitors, and the increased freedom of circulation thus obtained will obviate the necessity of those crowds which are now occasionally found in certain localities. To the greater number of those who frequent the park nothing would seem to be more desirable, than simple, straightforward exercise in the open air, and thus far the great effort has been to facilitate free and unobstructed movement everywhere over the park domain, reference being at the same time had to the proper development of those landscape conditions which would render such movements interesting. Next to this in importance, the Commissioners have ranked such provisions as would enable feeble persons, convalescents, and especially mothers with children, to remain for considerable periods in the open air, under comfortable and quieting conditions; and some arrangements to this end, of which the dairy cottage is the center, are now well advanced, and are expected to be opened next summer.

The opportunity afforded by the park for general social reunion—although no part of it yet open to the public has been expressly adapted to the purpose—is already highly appreciated by a large body of our citizens. Better provision, however, for coming together, and for meeting and recognizing friends, is regarded by the Commissioners of equal importance when they take into consideration the true uses and objects of a public park. To accomplish this purpose, arrangements which include a promenade concert ground on the shore of the lake, are now in progress, and will be found fully detailed in the report of the landscape architects, before referred to.

In estimating the capacity of the park to meet the probable requirements of the future population of Brooklyn, the proposed improvement of the streets which surround and form the boundary lines of the park has not been overlooked. Provision has accordingly been made for widening each of these streets, so as to form, when completed, a continuous avenue one hundred

feet wide around the whole circuit of the park, with a shaded walk thirty feet wide on the side adjacent to the park, and extending in length to a distance of five miles.

An appropriation of twenty-five thousand dollars was authorized last spring by the Legislature, for the improvement of Tompkins Park, in a style corresponding with the other city parks. A plan for its improvement has been prepared and adopted, and is now in the course of execution. The design, with a special report of our landscape architects relating thereto, will be found appended to this report. It embraces a fountain, besides other distinctive features of a novel character. A large amount of filling was required to bring the surface of this park up to the required grade, but the work is rapidly progressing, and the Commissioners hope soon to present Tompkins Park to the residents of that rapidly growing section of our city in at least as good a condition as any of the other parks under their charge.

With respect to the several street openings and improvements necessarily connected with the improvement of the park, and which have from time to time been placed under the direction of the Commissioners, they have further to report that immediately after the confirmation of the assessment for opening Sackett street was complete, the grading of that rugged and most forbidding of all our streets was put under contract, and the work is now nearly finished. As soon as the deep filling which was required for this street shall have sufficiently settled to admit of the construction of the central roadway, with the parallel traffic roads and other improvements contemplated by the Commissioners, their design in reference thereto will be fully carried out, and they expect in a short time to be able to throw open to the public this great Eastern Parkway, in a style corresponding with the importance to the city of so grand a leading thoroughfare.

The Southern Parkway, leading from the southwestern angle of the park to the Fair Grounds, and ultimately to the ocean, is still in the hands of the Commissioners of Estimate and Assessment, but it is expected that their report will soon be ready for publication, and when this is confirmed, the Commissioners intend to open the drive without delay, and to continue its further improvement as rapidly as the public exigency shall require.

The legal proceedings for the widening of the Coney Island road are not yet consummated. They have been tediously delayed by a litigation which involves the right of the city to be paid a reasonable compensation for the strip of land, twenty-five feet in width, which is taken from the park for the widening of the road. The opponents of the city claim that she is entitled to a mere nominal award, while the Commissioners can see no good reason why the city should not receive the same compensation which every other owner is to receive for land taken for the widening. The same objection is raised by parties liable to be assessed for the widening of Ninth avenue, Fifteenth street, and Franklin and Washington avenues, as well as for the laying out of Plaza street; and the decision of the question one way or the other will involve a difference to the taxpayers of our city of several hundred thousand dollars. The General Term of the Supreme Court has already decided in favor of the city, and the opinion of the court, as delivered by the Hon. Justice Pratt, will be found hereto annexed; but the parties in interest being still dissatisfied, have carried the case to the Court of Appeals. A final determination of the question, however, must soon be reached in that court.

The legal status of the Parade Ground, with the right of the general public to make use of the same, independently of the control of the county authorities, has recently received consideration from the same court. This court decided in a controversy which arose between the Park Commissioners and the County Supervisors, that although the legal estate in the parade ground is vested in the county of Kings, yet it is held in trust for public uses. That for all purposes of police and improvement, it is under the exclusive charge and control of the Commissioners, but that, at all reasonable times, and subject to proper regulation, it should be open for ball-playing and for military parades, to visitors from all parts of the State; and that its use cannot be confined to the residents of Kings county, as contended for by the Supervisors.

The Assessment Commissioners appointed for the purpose of charging a portion of the cost of the park upon the adjacent land specially benefited by park improvement, have not yet finished their arduous task, but are expected to have their report ready for confirmation at an early period. This assessment, it

will be remembered, is to be collected as a tax in annual installments, running through a series of twenty years, and will be received by the Commissioners of the Sinking Fund, and held for accumulation to pay the park bonds at their maturity. The Commissioners confidently believe that this fund, together with the proceeds of sales of land on the eastern side of the park soon to be made, will, with proper management, be amply sufficient for the liquidation of the entire park debt, without any resort to taxation, further than that which may be required to provide for current interest in the mean time.

The Comptroller's report of the financial condition of the Commission is also annexed, showing the particular items and objects of expenditure during the year. From this report it will be observed that the Maintenance Account is overdrawn to the extent of something over seventeen thousand dollars, in consequence of the insufficient requisition for maintenance which was made upon the Joint Board last year. Such changes, however, have been made in the executive department of the Commission as will enable the Commissioners to provide for the deficit out of the current year's allowance, and at the same time to guard against an overdraft in the future. The report also shows a balance in the hands of the Commissioners at this date, to the credit of the General Construction Account, of ninety-nine thousand two hundred and ninety-two dollars and eighty-seven cents.

Dated December 31, 1870.

J. S. T. STRANAHAN,
President.

JOHN H. PRENTICE,
Secretary.

JOHN N. TAYLOR,
Comptroller.

AN ABSTRACT OF THE FINANCIAL STATEMENT

OF THE

BROOKLYN PARK COMMISSION,

FOR THE YEAR 1870.

CONSTRUCTION ACCOUNT.

Receipts.

The total receipts on account of PROSPECT PARK during the year 1870, were:

Balance to the credit of this park, January 1, 1870....		$33,913 44
Received from the Comptroller of the city.	$500,000 00	
" " rents of houses in the park.	6,169 26	
" " sales of wood, grass, etc...	4,019 86	
" " interest on bank balances...	2,839 23	
" " park pound.....	372 10	
" " water sold.....	59 46	
		513,459 91
		$547,373 35

Expenditures.

The total expenditures on this park, for the same time, were:

Paid salaries, Comptroller, Superintendent, architects, and engineers.....	$23,736 20	
" surveyors, draughtsmen, and assistants.	13,334 20	
" laborers, mechanics, horses, and carts.	295,606 72	
" materials of construction, tools, etc...	88,485 13	
" fitting up of offices, rent and insurance.	3,019 42	
" stationery, printing, and drawing materials	2,840 74	
" trees, plants, and shrubs.....	3,706 90	
" manure, and other fertilizers	233 50	
" drainage pipe.....	2,711 20	
" patent pavements.....	7,462 56	
" water-pipe and hydrants.....	1,977 98	
" legal expense for additional counsel ..	4,965 93	
		$448,080 48
Balance to new account.....		99,292 87
		$547,373 35

December 31, 1870.

JOHN N. TAYLOR,
Comptroller.

Washington Park.

The total receipts and expenditures on account of Washington Park, for the same time, were:

Received.

From City Comptroller	$79,655 00

Expended.

Amount overdrawn January 1, 1870	$5,018 95	
Paid surveyors and assistants	648 63	
" materials of construction and tools.	1,354 96	
" Scrimshaw pavement	2,513 98	
" trees, shrubs, and plants	1,995 00	
" on account of inclosing wall	3,453 42	
" laborers, horses, and carts	4,238 05	
		$19,222 99
Balance to new account		60,432 01
		$79,655 00

Parade Ground.

The total receipts and expenditures on account of the Parade Ground during the year 1870, were:

Received.

From County Treasurer	$4,000 00	
" rent	17 50	
		$4,017 50

Expended.

Paid surveyors and assistants	$55 33	
" materials of construction	781 59	
" keepers, mechanics, laborers, and teams	3,085 02	
" balance due for lodge and shelter	2,350 00	
" trees and shrubs	54 60	
		6,326 54

MAINTENANCE ACCOUNT.

Received.

For the maintenance of all the city parks for 1870 ... $84,450 00

Expended.

For	Prospect.	Washington.	Carroll.	City.	City Hall.	
Roads	$12,815 30	$85 05	.....	.....	.....	
Walks	460 48	84 97	$54 57	$33 34	$83 79	
Structures	1,382 18	20 15	41 95	39 25	.....	
Plantations	16,747 64	2,212 90	328 10	6 80	139 17	
Water	1,921 61	3 44	.....	1 00	2 00	
Drainage	967 67	14 19	6 40	2 25	.....	
Ice	1,760 85	.....	.....	.....	.....	
Tools	1,000 05	.....	.....	.....	.....	
Keepers	32,324 62	2,179 12	963 67	1,047 25	.....	
General	5,755 92	177 33	11 26	.....	.....	
Total	$75,136 32	$4,777 15	$1,405 95	$1,129 89	$224 96	$82,674 27

Deficiency of maintenance in 1869	$18,817 73
	$101,492 00
Received, 1870	84,450 00
Deficiency of maintenance for 1870	$17,042 00

December 31, 1870.

JOHN N. TAYLOR,

Comptroller.

AN ACT

To authorize the Improvement and Sale of certain Portions of Prospect Park, in the City of Brooklyn. Passed April 23, 1870; three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. The Brooklyn Park Commissioners are hereby authorized for and in behalf of the city of Brooklyn, to contract and sell at public auction, at such times, and on such terms and conditions as they shall deem expedient, all or any part of the land within said park which is bounded westerly by Flatbush avenue, northerly by Vanderbilt avenue, easterly by Warren street and Washington avenue, and southerly by the town of Flatbush; excepting and reserving therefrom such lands around the reservoir, and along the line of Flatbush avenue southeasterly from said reservoir, not less than two hundred and fifty feet in width, as shall, in the judgment of said Commissioners, be considered desirable to be retained for public use.

Sec. 2. For any lands which the said Commissioners shall sell, they may receive in part payment the bonds of the purchaser, for such portion of the purchase money secured by mortgage on the land sold, as they may deem expedient. And whenever any such sales shall have been made, the Mayor, Comptroller, and Clerk of the city of Brooklyn shall, at the request of the said Commissioners, affix the corporate seal to good and sufficient deeds of conveyance, with or without covenants of warranty, and such other covenants as the said Commissioners shall from time to require and prepare; and the said Commissioners shall cause the said deeds to be delivered to the respective purchasers upon the receipt of the consideration stipulated to be paid therefor.

Sec. 3. All moneys that shall be received upon such sales, after deducting the expenses of sale and conveyancing, with the amount hereinafter authorized to be borrowed, with interest, shall be forthwith paid over by the said Park Commissioners to the Commissioners of the Sinking Fund of the said city, to be by them held as part of the general fund created, and to be created, for the redemption, according to their legal priorities, of all bonds issued for the payment of lands taken for Prospect Park; and within four

years after the passage of this act, the said Commissioners shall hand over to the Commissioners of the Sinking Fund all proceeds of sales, with all bonds, mortgages, and other papers and documents, appertaining thereto.

SEC. 4. *Repealed.*

SEC. 5. Preparatory to the making of the said sales, the said Park Commissioners are authorized to regulate, drain, and grade the lands proposed to be sold, and to lay out streets and avenues over or upon the same, of such width, and in such direction, and with such carriage ways, sidewalks, and areas as they may deem expedient. They may also grade, pave, curb, and gutter any of the streets or avenues which they shall so lay out, and plant shade trees thereon, in their discretion; but the expense of such measures shall not exceed, in the aggregate, the sum of one hundred thousand dollars. And after they shall have laid out the said streets and avenues, they shall cause a suitable map thereof to be made and filed in the office of the Street Commissioner of said city; and the Commissioners' map of the said city shall thereupon be altered to correspond therewith. The Park Commissioners may borrow, from time to time, such sums of money, not exceeding one hundred thousand dollars in amount, as they may deem necessary to put the said land in proper condition for sale, and to regulate and improve the said streets as above specified, and shall repay the same, with interest, out of the proceeds of said sales.

SEC. 6. This act shall take effect immediately.

SUPREME COURT.

SECOND JUDICIAL DEPARTMENT.

THE BROOKLYN PARK COMMISSIONERS

against

JAMES ARMSTRONG.

BY THE COURT.—GILBERT, J.—The parties having agreed upon a case containing the facts upon which the controversy depends, have presented a submission of the same to this court for determination, pursuant to section 372 of the Code of Procedure.

The facts are these: By the Act of the Legislature (Chapter 466, Laws of 1859), Commissioners were appointed to select and locate grounds for a park, in or adjacent to the city of Brooklyn, and to report to the next Legislature. They made their selection, and reported to the Legislature in 1860, which passed an act (Chapter 488, Laws of 1860), amended in 1861 (Chapter 340), by which a Board of Park Commissioners was appointed, and a tract of land lying on both sides of Flatbush avenue was declared, from and after the passage of the act, to be deemed to have been taken by the city for public use, as and for a public park, and to have been opened as a public place, with the same effect as if the whole of it had been taken and declared

open under the provisions of the charter of the city (Chapter 144. Laws of 1850), except as otherwise provided by the act. Commissioners of Estimate and Assessment were to be appointed by the Supreme Court, in the manner provided by the act relative to Fort Greene (Chapter 142, Laws of 1847), who were directed to "make just and true estimate of the value of the lands, and of the loss and damage to the respective owners, lessees, parties and persons respectively entitled thereto, or interested in the same, together with the tenements, hereditaments, and appurtenances, privileges or advantages to the same belonging, or in any wise appertaining, by and in consequence of relinquishing the same to the said city" (Sec. 4), which amounts were to be due and payable immediately upon the confirmation of said report. (Sec. 6.) The report was declared to be final and conclusive upon the city, the owners, and all other persons, and upon the confirmation of any such report, and upon payment being made to the owners of the lands in said report mentioned, or upon their assent thereto by deed duly executed, the said lands were "to vest forever in the city of Brooklyn for the uses and purposes of this act mentioned." (Sec. 8.) Bonds of the city were to be issued to pay the awards, and the property of the city, and the lands taken by virtue of the act, were specifically pledged for their payment. In 1865 an act was passed (Chap. 603), entitled "An act to change the boundaries of Prospect Park, in the city of Brooklyn," authorizing the Commissioners to acquire, for the purposes therein mentioned, an oval-shaped piece of ground for an entrance to the park. (Sec. 1.) It provided that this land, as well as all other lands mentioned in the act of 1861, should, "from and after the passage of this act, be deemed to have been taken by the city as and for a public park, and the Commissioners' map shall be altered to correspond therewith." (Sec. 2.) Commissioners were to be appointed as before, to estimate the value of this land, "and also all the estate, right, title, and interest in all other lands heretofore taken by the act of 1861, remaining in the owners thereof, and the loss and damages to be sustained by them in consequence of their relinquishing the same to the city." (Sec. 3.) "And the title of the lands mentioned in (their) such report shall, after such confirmation, vest forever in fee simple absolute in the said city of Brooklyn, and the said lands shall thenceforth form part of Prospect Park." (Sec. 5.) For the payment of the awards, and the redemption of the bonds issued under this act and the act of 1861, "all the lands embraced within the boundaries of the said park, including those now taken, are hereby specifically pledged." (Sec. 6.) That part of the land lying east of Flatbush avenue was never used or improved as a park, and has laid waste till the present time. In 1870, an act was passed (Chap. 373) entitled "An act to authorize the improvement and sale of certain portions of Prospect Park, in the city of Brooklyn." It authorized the Commissioners for and in behalf of the city to sell the land east of Flatbush avenue (Sec. 1), by deeds with or without warranty, which deeds should vest in the guarantees an absolute title in fee simple. (Sec. 2.) The proceeds of sales to be devoted to the sinking fund for the redemption of park bonds. (Sec. 3.) After

deeds are given, "all lien, rights and claims, by way of easement or otherwise, into, over or upon the lands, * * shall be terminated and extinguished." (Sec. 4.) In pursuance of this act, the Commissioners sold one lot to the defendant, who refuses to take the title, alleging that the act of 1870 is unconstitutional, and that neither the city nor the Commissioners can give a valid title to the fee, free from all encumbrance.

The question to be determined is whether a conveyance to the defendant of the premises in question, executed in pursuance of the said act of 1870, will vest in him a good title in fee thereto.

It is objected that an absolute title in fee simple was not acquired under the act of 1861, and that the act of 1865 violates Sec. 16 of Article 3 of the Constitution.

We do not deem it necessary to decide upon the validity of the last-named act, for we are clearly of opinion that the language of the act of 1861 imports a title in fee simple. This act makes provision for ascertaining the value of the lands taken in the mode provided by the Constitution for the payment of such value to the former owner, and then declares that thereupon said lands shall vest forever in the city of Brooklyn. Full effect can not be given to the words "shall vest forever" without divesting the entire estate of the former owner and vesting it in the city of Brooklyn. And such, we think, was the intention of the Legislature. Where an individual buys land and pays for it, he becomes entitled to a conveyance in fee simple, and we can perceive no good reason why the same effect should not be given to a purchase made on behalf of the State. While, therefore the private interest of the citizen is never to be sacrificed to a greater extent than is necessary to secure the particular public object, yet the State is considered in all such transactions as an individual treating with an individual for an exchange.

All that the Legislature does is to oblige the owner to alienate his property for a reasonable price. The constitutional restriction upon the power of the Legislature on this subject, at most only prohibits a taking of it for private use, and requires a just compensation to be made. But it contains no restriction whatever, express or implied, upon the power of the Legislature to decide whether a necessity for taking the property exists, and if land is to be taken, what estate in it shall pass. As was said by Chapman, C. J., in Dingly *v.* City of Boston, 100 Mass., 560: "In the taking of other property, no one would doubt that an absolute title might be acquired. If, for example, in time of war, Government were to take timber for a ship of war, or horses for the army, and pay for them, no one would suppose that the owner could reclaim his property after the war was over, or that the Government, having ceased to use it, could not sell it and give a good title to it." And yet the provision of the Constitution on this subject applies to all property alike, and makes no distinction between land and chattels. Whether an absolute or qualified title has been acquired, therefore, must be determined by a construction of the legislative act. We have already expressed the opinion that the Legislature intended the City to acquire, and that it did acquire a fee simple, absolute in the lands taken for the Park. It

follows, that the Legislature may authorize a sale, or any other disposition of the lands, as the public welfare or convenience may demand. They certainly have as complete a dominion over property belonging to the State as any private owner has over property owned by himself. The right of alienation is an inseparable incident of every ownership.

There is no ground for saying that the case shows an attempt to transfer private property from one man to another. When the property was taken, it was acquired in good faith for a legitimate public use. The Legislature had the unquestioned right to create a large or a small Park, and to take as much land as they deemed necessary. Their right to diminish the size of the Park, and to sell land no longer needed, whenever the public interest will, in their judgment, be promoted by it, is also unquestionable. The case shows such a public exigency, and we have no doubt of the power of the Legislature to meet it by authorizing a sale of any part of the land originally taken.

Indeed, the question of the power of the Legislature to acquire an absolute estate in land, and to sell the same when no longer needed for public use, can not now be considered an open one in this State. (Heyward *v.* The Mayor, 3 Seld., 143. Rexford *v.* Knight, 11 N. Y. R., 314.)

It only remains to notice one other objection taken by the defendant, which relates to the effect of a pledge said to be contained in the Act of 1861, of the lands authorized to be taken, for the payment of the bonds issued for the purchase of said lands. It is claimed on behalf of the defendant that it creates a contract between the public and the bondholder, the obligation of which the Act of 1870 seeks to impair, and, that, therefore, the latter act is void by reason of that provision of the Constitution of the United States which prohibits any State from passing any law impairing the obligation of contracts. The answer to this is that no contract was created. The Act of 1861 is merely restrictive of the corporate power of the City of Brooklyn in respect to the lands so taken and other property, and in no sense affects the power of the Legislature over them.

Upon the whole, we are of opinion that the plaintiffs are entitled to judgment.

NINTH AVENUE WIDENING.

SUPREME COURT—GENERAL TERM.—Judge Pratt.

The general term of this court, at the last session thereof, in the case of the Park Commissioners against Armstrong, held that the fee of the land included in the park became vested in the city of Brooklyn, under chapter 340 of the Laws of 1861.

The Act of May 7, 1869, directs Ninth avenue to be widened so as to include a portion of the land included in the park.

By section 2 of said act the Commissioners of Estimate and Assessments are directed to estimate the *damage* and *expense* of such widening, together with the amount *of damages* sustained *by owners* of land so taken.

It having been settled that the city of Brooklyn is the owner, for the purposes of a park, of the land in question, it only remains to determine whether the Commissioners of Estimate have adopted an erroneous rule in making their estimate.

The taking of this land for the use contemplated was probably considered by the Legislature as imposing upon it a perpetual easement, and rendering it valueless to the owner (the city of Brooklyn) as a park, and hence the Legislature provided that the *damage* to the owner should be estimated and paid.

I cannot perceive upon what ground it can be claimed that the estimate is erroneous. It does not appear that the land taken will not compare favorably in value with any included in the park, and taking the whole park at its cost, we find that the quantity taken here leaves the same proportion to the whole park that the estimated damages bears to the whole price paid. If, then, the Legislature considered that the easement was to be perpetual, so as to forever divest the city of the use of this land as a park, there can be no error in the estimate as made up by the Commissioners.

Suppose a railroad company should hereafter take proceedings to acquire the fee of this land, would not the Courts hold that the damages should be nominal to the owner, it being already burthened with the easement of a public street?

Although the nominal fee is not taken from the City by this proceeding, yet its whole value is destroyed, except for a nominal amount, so that the City only obtains in damages what the land originally cost.

It will be observed that the Statute of 1869 requires the *damages to the owners* to be estimated, and it may well be, that, considering the nature and extent of the easement, the damages awarded or estimated are the full sum the land originally cost. At all events, the amount was vested in the discretion of the Commissioners.

It is immaterial to consider whether this law was an attempt on the part of the Legislature to exercise the right of eminent domain. Concede that it was not, yet the act is not invalid. The Legislature had previously vested the fee of this land in the City of Brooklyn. By the act in question, it is provided that a certain portion of it should be taken for the use of the general public; that the owners (the City of Brooklyn) should be paid the amount of damages as estimated by a commission provided for in said act; and that two-fifths of said damages should be paid by parties owning land on the opposite side of the street. It was competent for the Legislature to do this under its power of taxation.

It is claimed by the appellants that the terms of the act are answered by its application to Fifteenth street. But this is answered by the terms of the act itself (Section 4), wherein it is careful to provide that three-fifths of the *expense and damage* to be caused by the widening Ninth avenue should be assessed upon the Park side.

(See also Section 11, page 1,106, R. S. Banks and Brothers, 5th ed., Vol. 3.)

But the act in question went further than to provide for an award of damage to the owner of the fee. It provided that said Commissioners should assess the damages *that might be sustained by any person affected* by such taking of land.

The Act of 1861, which authorized the original acquisition of the land by the City, authorized the City to issue bonds to raise money to pay for the land, and created a sinking fund for the redemption of said bonds.

Section 12 of that act also pledged the land widened to the Park

for the payment of the bonds to be so issued. Two acts were afterward passed in 1868, Chapters 314 and 419 of the Laws of that year, pledging in different forms the land included in the Park for the payment of bonds issued for its extension and improvement. These laws, taken together, included all the land taken for the widening of Ninth avenue.

At the time of the passage of the Act of May 7, 1869, bonds were outstanding that had been issued under these previous acts.

The Commissioners construed the act so as to give effect to the words "all other persons affected thereby," and while they in form awarded the damages sustained to the owner, they added the words "The Commissioners of the Sinking Fund of the City of Brooklyn, to be applied to the redemption of Park bonds."

This was a construction of the act in harmony with all the previous legislation on the subject, and gave effect to all the provisions it contained.

It was immaterial how they designated the estate taken, so long as it does not appear that any erroneous rule controlled them in estimating the damages.

I can not perceive that the Commissioners have erred in any material respect. The act plainly required that Ninth avenue should be *widened;* that the *damages* for such widening should be estimated and awarded to *the owner*, and that two-fifths of the amount should be borne by the land on the opposite side of the street, and the City of Brooklyn being such owner, and the land being under this act substantially taken, the Commissioners could not have done less than award the sum they did.

The order appealed from is affirmed with costs.

AN ACT

To lay out, open, and improve a street in the Plaza of Prospect Park, in the City of Brooklyn. Passed May 3, 1870; three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. The Brooklyn Park Commissioners are hereby authorized and directed to lay out a public street, eighty feet wide, within the Plaza of Prospect Park, in the City of Brooklyn, commencing at the westerly corner of Ninth avenue, at its junction with the said Plaza, and running thence northerly, easterly, and again southerly, around the circumference of the said Plaza, and terminating at the junction of the said Plaza with Flatbush avenue; and the street so described shall be laid down upon and form part of the Commissioners' map of the City of Brooklyn.

Sec. 2. No building shall at any time be erected upon any lot of land facing on the said Plaza street, unless it be constructed with brick, stone, or iron, at least forty feet high from sidewalk to cornice, with metallic or slate roof. Nor shall there be at any time erected or carried on upon any of said lots, any slaughter-house, tallow-chandlery, furnace, foundry, nail or other factory, or any manufactory for making starch, glue, varnish, vitriol, oil or gas, or for tanning, dressing, repairing or keeping hides or leather, or any distillery, brewery, or sugar-bakery, lime kiln, railway or other stable or depot, or any manufactory, trade, or business which may be in any wise dangerous, noxious, or offensive to the neighboring inhabitants. And the said street shall include a sidewalk, twenty-five feet wide, to be laid out adjoining the houses to be built thereon, ten feet in width of which shall be allowed to the owners or occupants of said houses adjoining their premises for court-yards or areas, within which to erect porches or stoops to their houses, provided they will inclose such court-yards or areas with good and sufficient iron fences, not exceeding five feet high, and of a pattern to be approved of by said Commissioners.

Sec. 3. The said Park Commissioners are hereby also directed to take proceedings within sixty days after the passage of this act, to open, grade, and otherwise improve the said street; and, in order to determine the amount to be paid to the owners of the lands and tenements required to be taken for the purposes of this act, they shall first fix a district of assessment, beyond which the property to be benefited by the said opening, as well as the subsequent improvement thereof, shall not be assessed to defray the expenses thereof; they shall then apply to the Supreme Court, at a special term thereof, to be held in the Second Judicial District, upon a notice to be published

ten days consecutively in two newspapers printed and published in the said City, for the appointment of three Commissioners to estimate the expense of such opening, and the damages to be sustained by any person interested therein, as well as by the reason of the said taking, as by the creation of the restriction or easement upon the land specified in the second section of this act, and to apportion and assess the same upon the property to be in their judgment benefited by the said improvement within the district of assessment so to be fixed by the said Park Commissioners, and the Court shall thereupon proceed to make such appointment.

Sec. 4. Upon the appointment of such Commissioners, they shall, after having been duly sworn, proceed to make the said estimate and assessment, and after their report thereon shall have been confirmed by the said Court, the said Park Commissioners shall cause the said street to be graded, paved, curbed, and guttered, and shade trees planted thereon, using such pavements and materials of construction as they shall deem best, and shall certify the costs and expenses thereof to the Board of Assessors of the City of Brooklyn. The said Board of Assessors shall thereupon apportion and assess the said costs and expenses upon the property to be benefited thereby, within the district of assessment so to be fixed by the said Park Commissioners.

Sec. 5. After the appointment of Commissioners of Estimate and Assessment, all the provisions of the act entitled "An Act to open and widen portions of Sackett, Douglass and President streets, and otherwise alter the Commissioners' map of the City of Brooklyn," passed May sixth, eighteen hundred and sixty-eight, and of the acts herein referred to which relate to the duties and emoluments of Commissioners of Estimate and Assessment to be appointed under that act, and the confirmation of their reports by the Supreme Court, or which relate to and prescribe the powers and duties of the said Park Commissioners in reference to the subject-matters of that act, and to the levy and collection of all assessments and the lien thereof, and to payment for improvements and work done thereon; or which relate to and prescribe the duties of the said Board of Assessors; and all other provisions of laws referred to in that act, so far as they are not inconsistent with the provisions of this act, shall apply to regulate and govern all the powers, duties, and proceedings of all persons, officers, and Boards of Commissioners or Assessors who shall or may be employed or appointed under this act, or who are designated or referred to in this act.

Sec. 6. This act shall take effect immediately.

AN ACT

To widen and improve a portion of Washington avenue, in the City of Brooklyn, and extend the same into the Town of Flatbush. Passed April 23, 1870; three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Washington avenue, in the city of Brooklyn, is hereby widened so as to be eighty feet wide, from Atlantic avenue southerly to the city line of Brooklyn, and shall be opened to that width by adding ten feet in width to the westerly side thereof, as the same is now laid down on the Commissioners' map of the city of Brooklyn. And the said avenue so widened is hereby extended southerly, in a direct line, into the town of Flatbush, until the easterly side thereof intersects a line drawn at right angles to East New York avenue, from a point on the northerly side of said avenue, which point is distant nine hundred and eighty feet westerly from the northwest corner of Perry avenue and East New York avenue, as said avenues are designated by a stone monument, and thence along said right-angled line to the northerly side of said East New York avenue, and which said right-angled line forms the said easterly side of said extended avenue. And the said avenue is hereby further extended by the name of Washington place, from said avenue, and westerly to Flatbush avenue, which last extension shall be seventy feet wide, and its northerly side shall begin at a point on the westerly side of said Washington avenue, at a point which is five hundred and ninety-five feet southerly from a point on the westerly side of Washington avenue, formed by extending the southerly line of Montgomery street westerly, and running thence westerly, at right angles to Flatbush avenue, until it reaches said Flatbush avenue; and all those two triangular pieces of land, at or near the junction of Washington and Underhill avenues, lying between Atlantic avenue and Pacific street, and between the westerly side of Underhill avenue and a line drawn parallel with and one hundred and seventy-four feet easterly therefrom, are hereby added to said Washington avenue, and shall form part thereof, and be so laid down on the Commissioners' map of the city of Brooklyn.

Sec. 2. The Brooklyn Park Commissioners are hereby directed to open, grade, and otherwise improve the said avenue so widened, and the said extension thereof. And, for the purpose of determining the amount to be paid to the owners of the lands and tenements required to be taken for the purposes of this act, and the expenses

thereof, they shall first fix a district of assessment, within which the property to be benefited by the improvements shall be assessed to defray the said damages and expenses, and shall then cause application to be made to the Supreme Court, at a special term thereof, to be held in the Second District, upon a notice to be published not less than ten days consecutively in two daily newspapers printed in the city of Brooklyn, for the appointment of three Commissioners of estimate and assessment.

Sec. 3. The Commissioners so to be appointed shall, after being duly sworn, estimate the expenses of the said widening and extension, and the damages to be sustained by the owners of land, and all other persons to be affected thereby; and, after their report thereon shall have been confirmed, they shall apportion and assess the same as they shall deem just and equitable upon any lands and premises to be benefited by the said improvement within the district of assessment so to be fixed by the said Park Commissioners.

Sec. 4. After the appointment of the said Commissioners, all laws now in force relative to the opening, widening, and extending of streets and avenues in the city of Brooklyn, and the proceedings thereon, and duties of the several persons to be employed therein, substituting the said Park Commissioners in the place of the Common Council of said city, and the said Commissioners of Estimate and Assessment in place of the Board of Assessors in relation to the opening of streets; including, also, payment for the work to be done, the lien of assessments for the opening of streets, as well as for the improvement thereof, and the levy and collection of the same, so far as they are not inconsistent with the provisions of this act, shall apply to, regulate, and govern all proceedings which may be had or taken under this act. And the Park Commissioners shall employ an attorney and counsel, and all such clerks, surveyors, and other agents as may be required for the purposes of this act.

Sec. 5. The said avenue so widened, and the said extensions thereof, shall be laid out according to a plan to be devised or adopted by the said Park Commissioners, and shall be graded, paved, curbed, and guttered, and shade trees planted thereon, as they shall direct. And the Park Commissioners may construct such carriage ways, sidewalks, and areas, and make use of such materials of construction or pavement as they shall deem best, and may make all necessary contracts for carrying out the said improvements. And all such contracts, with all other expenses incident to the improvement of the said widened avenue, or the extension thereof, shall be certified by the said Park Commissioners to the Board of Assessors of the city of Brooklyn, and shall be by said Board apportioned and assessed as other local assessments are by law directed to be apportioned and assessed in said city, within the district of assessment so to be fixed by the said Park Commissioners, for the said opening.

Sec. 6. All assessments to be laid under this act, whether they relate to the opening of the said avenue, or of the extensions thereof, or the improvement of the same, shall constitute liens upon the several pieces or parcels of property to be charged therewith, whether

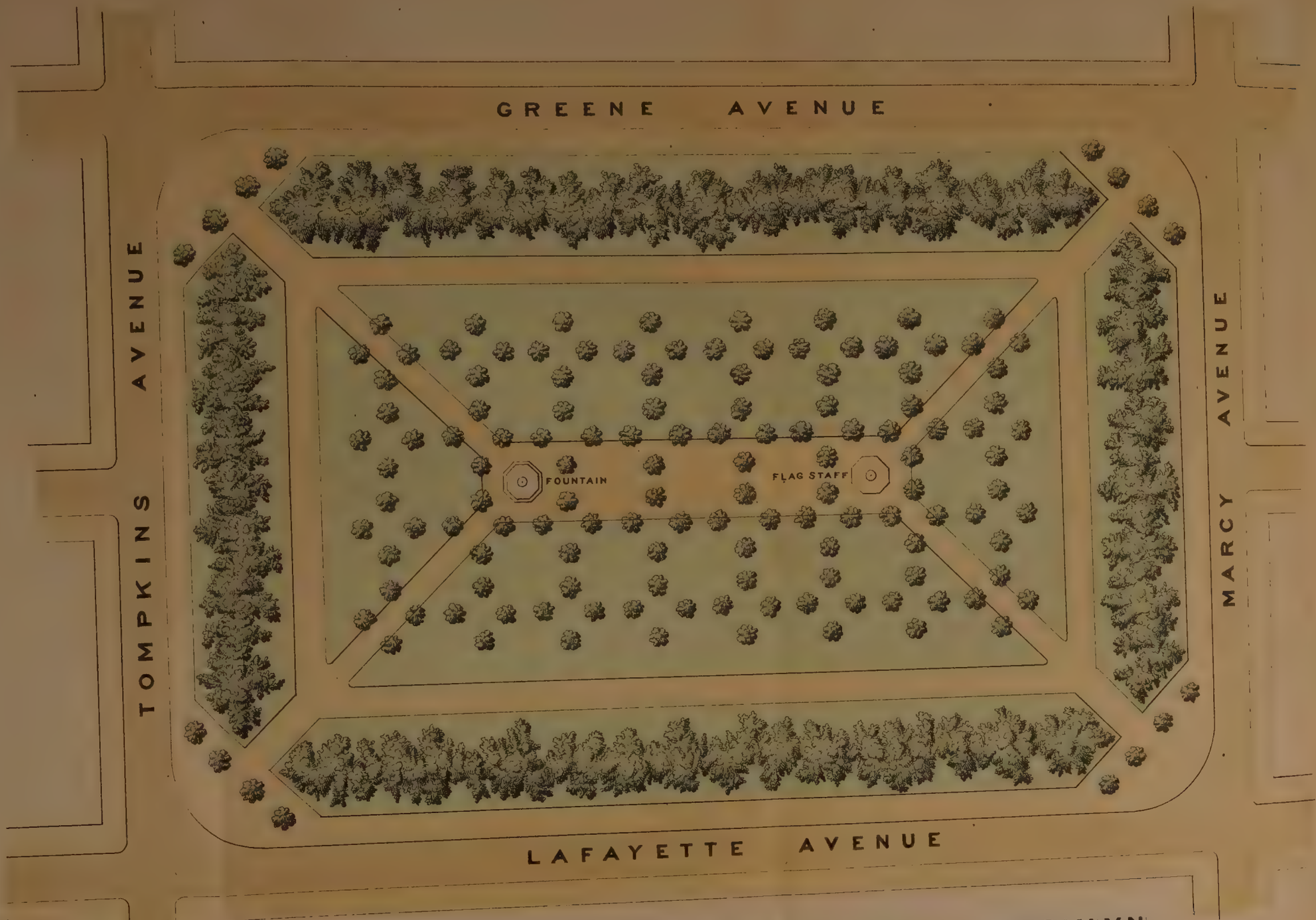
such parcels are in the city of Brooklyn or elsewhere in the county of Kings; and so far as they relate to property lying within the said city, they shall be levied and collected in the same manner as other local assessments are, by law, levied and collected in said city; and, so far as they relate to property outside of said city, they shall be collected in the manner hereinafter described.

Sec. 7. The said Park Commissioners are hereby authorized and directed to appoint a collector of all such assessments to be laid under this act as are chargeable upon property lying outside of the said city and within the town of Flatbush. The said collector shall give bonds to the said Commissioners for the faithful discharge of his duties, and the prompt payment to the comptroller of the city of Brooklyn of all moneys to be collected by him, and shall be entitled to receive five per cent. for all moneys so to be collected and paid over by him. Upon the receipt of such moneys by the comptroller, he shall forthwith pay them to the several persons entitled to receive the same.

Sec. 8. Immediately after the appointment of the said collector, he shall give ten days' notice of a time and place where he will attend to receive payment of the said assessments, which notice shall be posted in at least four conspicuous places in the town of Flatbush, and also at the City Hall, in the city of Brooklyn; and, if the said assessments shall remain unpaid for twenty days after the expiration of the said ten days, he shall proceed to sell such of the said several parcels of lands, upon which the said assessments shall remain unpaid, at public auction, for the lowest term of years for which any person will take the same, and pay the amount remaining due, with ten per cent. interest added thereto, the said collector first giving thirty days' notice of the time and place of sale, by affixing the same in at least four conspicuous places in the town of Flatbush, and also at the City Hall, in the city of Brooklyn.

Sec. 9. Upon such sale being made, the said collector shall give certificates of sale to the purchasers, and shall also execute and deliver conveyances of the lands so purchased, unless the same shall have been redeemed within two years from the time of sale, by the payment to the purchaser or to the said comptroller, for his use, of the sum paid by him, with interest at the rate of twelve per cent per annum.

Sec. 10. This act shall take effect immediately.



DESIGN FOR LAYING OUT TOMPKINS PARK — BROOKLYN.

OLMSTED, VAUX & CO. LANDSCAPE ARCHITECTS.

REPORT ON TOMPKINS PARK IMPROVEMENT.

To the Brooklyn Park Commissioners:

Gentlemen:—Where public places in the midst of large towns are not intended for public meetings, military parades, or other special purposes, the motives to be served in planning them are of two classes. It may be proposed, first, simply to form a cheerful, bright, and refreshing object to be observed from the adjoining streets and houses; or, secondly, it may be intended to provide accommodation for agreeable exercise, rest, and social intercourse in the open air, for such portion of the surrounding population as may be induced to resort to the ground. In providing for the latter intention, it is usual to arrange trees and shady walks in the exterior parts, with central open spaces of turf. Unless the ground is very large, the turf spaces are not designed to be walked over or played upon, but simply for the eye to rest upon, and as landscape features. To secure the slightest landscape effect, however, a close background of low verdure, as well as of high-topped trees, is necessary, and this involves the planting of shrubs or underwood in the outer part of the ground.

Where this course is adopted in spaces of ground not larger than Tompkins square, certain undesirable results eventually follow, viz.:

1st. The shrubs suffer from the shade and from drip and drafts upon the soil of the trees, and, as a natural consequence, are drawn up, and in a few years become poor and sickly, and cease to bloom.

2d. The double shade of trees and shrubs, with their draft upon the soil, makes good turf and herbaceous decoration also impossible.

3d. In the attempt to mitigate these evils, the beauty of the trees is often destroyed by mutilation of their lower limbs, and much labor is vainly expended in attempting to renew and improve the shrubs, turf, and flowers. Residents of houses facing the ground then complain that they see nothing beyond the fence but a dull, high wall of foliage.

4th. On account of the narrow, winding walks, and the obstruction of vision by bushes in the outer parts, it is difficult for the guard-

ians of the ground to observe or control the conduct of visitors, or to protect the borders of flowers. The place is therefore resorted to for clandestine purposes, and by people of bad character. It becomes untidy, loses reputation, and there is a complaint of the noise and bad language heard at the windows of the neighboring houses. This occurs the more because visitors are led to congregate near the outside, where there is the most shade, and where their voices readily reach the adjoining houses.

These evils are in a great degree avoided, and the square is made cheerful, elegant, and refreshing to the eye, as seen from the adjoining streets and houses, by the adoption of the other motive, which dispenses entirely with trees, and studies to produce beauty of detail, and flowering shrubs and plants, and by sculptural decoration, as in some of the smaller places in European cities. This, however, involves larger expense at the outset, and gives much less of substantial advantage to the citizens at large.

If a compromise be attempted between the two, the result is, that an expensive system of maintenance is necessary to preserve any tolerable degree of neatness and order, while a high degree of beauty or usefulness in any way is impossible to be attained.

These objections to the usual methods suggest the inquiry, whether it is not possible to design a public ground of moderate extent, which, while presenting a bright and beautiful front upon the adjoining streets, shall at the same time offer the public an attractive recreation ground, with shady walks and seats, under conditions favorable to free observation, good order, and economy of maintenance.

To solve this problem on a piece of ground not larger than Tompkins square, it is obviously necessary to discard all attempts to form effects of natural landscape. It is necessary that shade and beauty of trees should be provided for only in the interior, and that flowers, turf, shrubbery and decoration of the ground surface should be sought for only in the exterior parts.

Our plan herewith presented provides for a spacious central quadrangle, planted only with large trees, which are arranged symmetrically, but not in avenues or straight rows. It will be observed that a portion of the ground is shown in turf, and a portion in gravel, but no restriction upon walking or playing upon the turf is intended to be maintained, and whenever, owing to the increase of population in the neighborhood and the growth of the trees, it is found impracticable to keep the interior spaces of turf in good order, the turf is expected to be wholly obliterated and the entire area graveled.

While the trees are young and small, so large a space of unshaded ground will appear hot and dreary unless covered with turf.

On each side of the central umbrageous quadrangle, and between it and the streets, there is a garden, which being unshaded by trees, may be made very bright and elegant with flowering shrubs and plants, and perfect turf, and these will be equally well presented to the view of passers-by and the residents of the opposite houses. These garden spaces are proposed to be inclosed by a very light and open fence on the street side, and by a low rail on the promenade side. The turf and flowering plants within being thus protected from close approach, the expense of keeping them in order would be comparatively small.

Four entrances to the quadrangle through the garden are provided for, and these are placed at the corners, because they will here give the most direct access to the promenade ground to those approaching from without the square, while the inhabitants of the square, on an average, are equally well accommodated. At each of these entrances four trees are placed, because in these positions they will not obstruct the view from the houses of the garden, nor injure them by the shade. By this arrangement, also, decorative border planting is admissible opposite every house fronting the square.

The original expense of construction, under this plan, would be less than for a ground laid out in the manner of which Carroll Park is an example, while the results would, it is believed, be much more satisfactory.

Respectfully,

OLMSTED, VAUX & CO.,

Landscape Architects.

REPORT

OF THE

LANDSCAPE ARCHITECTS AND SUPERINTENDENTS.

BROOKLYN, *January*, 1871.

TO THE BROOKLYN PARK COMMISSIONERS.

Gentlemen:—The primary construction of the park is now essentially complete in all of the territory which was at first placed under your control, and in the greater part of the remainder, or in all of the park from the Plaza gate to the Lookout hill, the design is so thoroughly fixed upon the ground that the character of the scenery, and of the public accommodations aimed at, can hardly be questioned.

As mistaken ideas of the intention of the design have evidently gained some currency, it seems timely, before referring to what is now in course of preparation, to review what has thus far been done.

When the formation of the park was begun, there was little pleasure-driving in Brooklyn, except of fast trotters; the gay procession which is now to be seen, every fine day, was scarcely at all foreshadowed; there were fewer private carriages relatively to the population than there had been at an earlier period, and probably fewer than in any other city of equal population in the country. In driving for pleasure—not merely for conveyance from point to point—it had always been an object to get as soon as possible out into the country, and, if tolerable roads could be found, into the midst of woods and scenes of a secluded and rural character. It was even more of an object to do so with those who walked or rode for recreation, and still again more so with those who made up picnic parties for a holiday. It was from the rapid destruction of all rural charm in the suburban roads, and the constantly increasing difficulty of finding any place near the city in which natural landscapes or a rural ramble could be quietly enjoyed, that the want of a public park was experimentally known.

After the works on the ground appropriated to a park were begun, it was for a year or two impossible for most observers to see any intention in them of developing natural scenes, while their obvious extent and costliness, and the amount of building material which seemed to be accumulating, gave the impression that the original features of the site were to be utterly destroyed, and a stiff, formal, garden-like ground was to be formed, dependent largely for its interest on artificial objects. Such an apprehension was not unreasonable, for, under the name of the gardenesque style, a method of treatment of public grounds has been much advocated, the result of which is very liable to be an incongruous mixture of nature with what is called art. An impression that such would be the prevailing character of the Brooklyn Park became at this period so strongly fixed, that with many no confidence seems even yet to be felt that a different result has at any time, or in any place been designed.

It is therefore more especially with reference to this question that an examination of the completed construction is invited.

A considerable part of the ground in question was originally wooded. None of this, with the exception of swampy spots where the trees were sickly and decaying, has been cleared further than necessary to open the way for the roads, nor has its original form been anywhere more than slightly modified, and this chiefly in the filling up of depressions, mostly artificial, of the surface. The cleared land of the site was in many places crossed by the excavations and embankments of the old country roads and the later formation of the rectangular system of streets, and there were several large clay and gravel pits upon it, as well as many acres of peat swamps, some of which had been partially excavated, and some partially filled over. The heaviest earthwork has been in draining, filling, and restoring the surface in and about these places to a natural character. No hill, not previously marred by excavations in street construction, has been leveled or its general elevation reduced. The tendency of all the changes of the surface has been to enlarge and make more distinct the original natural features. Swamps, pond-holes and hillocks which obstructed the general flow of the surface alone have been obliterated.

There are two small districts in which it may be questioned if this general intention of magnifying the natural features, and idealizing the natural suggestions, has been strictly adhered to. Even in these cases, however, it will be seen that depressions have been deepened, and steep hill-sides made steeper. One of the districts referred to is designed especially for the amusement and education

of children, the other with reference to objects which will be hereafter described. In neither case have the special purposes to which the locality is devoted been pursued at the expense of the general intention. In looking over either district from the surrounding parts of the park, nothing is observable that does not harmonize with and aid intended landscape effects.

The drives, rides and walks, the grading for which has given occasion for the largest disturbance of the ground not directed, as above stated, to the restoration and emphasizing of its original characteristics, are nowhere designed to arrest or withhold attention from the natural features, but are solely adapted, and are no more spacious or multiplied than is necessary for the convenient passage of the number of persons who even now occasionally resort together to the park. It is common, in public pleasure grounds, to make prominent circumstances of the ways through them, and to emphasize their course so that they can not escape attention, even from a distance, by continuous rows of trees or distinct borders, with various decorations, architectural and otherwise.

It will be readily seen that there has been, so far, no such purpose in your park; the least possible break in the turf and natural plantations which is consistent with convenient movement is everywhere studied in their course, grading, and method of construction. The walks are parted from the drives, in order that the necessary breaks of the turf and trees may be as narrow as possible, and except where elevation is sought to open a distant view, both are kept below the general level and are without guards or distinct curbs, so that the range of vision passes over them and catches only the green swells upon their borders.

At a short distance from the principal entrance, the course of the walks is designed to invite dispersion; for this purpose, and to aid in inducing a feeling of security and of freedom from the hurry, bustling and watchfulness necessary to safety while walking in the streets of the city, two of the four archways which have been built on the park are used. By means of these, the drives which must otherwise need to be crossed can, if desired, be passed without dodging among carriages, and without compelling drivers or horsemen to pull up. The lack of a provision of this kind in most of the popular parks abroad leads to many accidents and much inconvenience. The arches are as short, as narrow, and in all respects as unobtrusive as they can well be made, consistently with their objects, with sound, permanent construction, and with an honest expression of their purpose. They are always in recesses and depressions of the general

surface of the ground, are always flanked and additionally secluded by thickets of foliage, and their masonry is half covered with vines and creepers. Generally they have no parapet, but a ridge of earth and rocks, covered by a loose hedge of shrubs, with a falling habit, rambling over their face. In the Enterdale and Eastwood arches (which were the first built) the planting has now been done long enough to fully exhibit this character. If the object of these constructions, instead of the simple safety and convenience of those using both drives and walks, had been, as seems to be yet quite generally supposed, the making of an architectural display, none of these precautions would have entered into their design. As it is, so far from being obtrusive objects, they are passed by those in carriages, in most cases without being observed. They serve the purpose of shelter, upon occasion, from showers, and make a less number of special structures necessary for this purpose. They are lined with wood to avoid the drip which would occur from the condensation of moisture on stone under the circumstances.

Such other sheltered seats as have been thought to be required are mainly low structures of sassafras logs, are, or are to be, in the shadow of trees, and draped with creeping foliage, and are as modest and secluded as is consistent with their purpose, which requires that they should be readily distinguished when the need for them arises. Besides these shelters, and some low, vine-covered trellises, only two buildings, a cottage and barn, have been placed on the ground. These are in the midst of wood, and only their roof-trees can be discerned from the more frequented parts of the park. The cottage commands a distant view through a vista among the trees, but itself enters decidedly into no landscape. With one exception, the bridges thus far built are of wood, or rude field-stones, low, for the most part lost in foliage, and as inconspicuous as without greatly increased expense it would have been possible to make them. There is one bridge which serves four different routes of connection besides spanning a water-course, and which commands two distinct districts, seen comprehensively from no other point. A considerable and prominent construction was here a necessity, and it has received a careful architectural treatment. Its position is nevertheless retired rather than conspicuous, and it will be flanked and deeply shadowed by the associated plantations. When the colors of the now fresh cut stone shall have been subdued, the bridge will be much less obtrusive in the landscape than an ordinary farm-house or barn.

As to the apprehensions, sometimes expressed, that the park is to be everywhere disturbed, as some foreign parks are, with artificial ob-

jects, such as monuments, statues, temples, kiosks, pagodas, obelisks, fountains, vases, terraces, stiff avenues, and trim parterres, there is nothing of the kind to be found upon all this ground, and except the indication of a site for a simple block of stone, three or four feet high, as an historical landmark (and this in a position where it could not be observed from any of the drives or leading walks), no proposition or suggestion for the introduction of anything of the kind upon it has ever been presented to you, or appeared upon any of your plans. There is not a single construction or artificial object upon all this ground which is designed to attract the eye or arrest attention.

But the question will be asked if the scenery of the park is, after all, only of a common-place, natural, rural character, why has its preparation needed so much more labor than a farmer ordinarily bestows upon his woodlands and pastures? These may often be found, in parts at least, much more beautiful than any part of the park, and may be bought outright, with everything on them, for a tithe of what has been spent in the construction of the park. It may be answered, that the object of the larger part of the study, skill, and labor expended, has been to reconcile the purpose of a gradual and slow development of a special type of rural landscape, with the constant convenient use of the ground as a place of recreation by a very great number of people; and if it appears to have been unnecessarily large, it is in part because the difficulty of maintaining a natural and rustic character, and at the same time of keeping the ground in neat and convenient order, under these circumstances, is much greater than is generally realized. The character of the evidence which shows this difficulty may be indicated by a reference to what has passed under the eyes of many citizens of Brooklyn upon the park.

During the first two years of the work, interest in what was promised, and curiosity as to the progress of construction, led many to visit the site of the park, and, as much of the ground was constantly crossed by trains of carts, and thus made dusty or miry, or was freshly dug or manured, or otherwise rendered disagreeable by the works in progress, most of these visitors were driven to find a place of more quiet and comfort, in the uninclosed woods a little on one side of the line of operations. In the parts of these to which the largest numbers came, and where there was most lounging, though constantly patrolled by the park keepers, and though all convenient pains were taken to preserve order and neatness, and prevent injury to the trees and shrubs, all of the

herbage, and of the foliage growing within six feet of the ground, except a few briery thickets, wholly disappeared; the soil was worn to dust, and blown and washed away so much, that, within two years, the roots of the trees everywhere protruded, and many withered in consequence. Whenever it rained, the old wood trails were gullied, the hollow places became sloughs, and the whole surface slimy and disagreeable to see or to walk upon.

Reflecting that the number of people using this ground was hardly as one to a hundred of those to be expected in the future upon the park, no one could observe the progress of wear and tear, under these circumstances, without being convinced that to permanently secure a high degree of rural charm in the public ground of a large city, special preparations are required of a skillful, elaborate, and substantial character. The result of acting upon the contrary assumption was shown in Washington Park, before it was revised by your Commission. Nine-tenths of the trees originally planted on it had received serious injuries; and much the larger part were, upon inspection, condemned as damaged beyond recovery, and have been burned. The spaces laid with turf had been worn bare, or had become everywhere untidy and forlorn. It was not an attractive, a suitable, hardly a safe resort for women and children, and was regarded rather as a nuisance, than as an advantage, to the neighborhood. This experience has been gone through with many times, in many places, in Europe and America. The common result, after the shabbiness and uselessness becomes scandalous, is that which is illustrated in Boston Common, and which is now being applied to the Battery in New York, a style of improvement being adopted in which an evident effort is made to avoid formality, but in which, nevertheless, not the least approach to a free, natural, rural character is attempted, and the public is then invited to pass through the grounds by a complicated series of gangways guarded by chains or rails. Recreation may be obtained in such grounds, but it can hardly be called rural recreation, and it is even a question whether convenience, economy, and good taste would not all have been better served by the adoption, at the outset, of a formal and elegant architectural style.

As the park has come more and more into use, new habits and customs, and with them new tastes, have been developed. There is already many times as much pleasure driving as there was five years ago, and not a few persons are more attracted to the park

by what is to be seen upon the road, than by any conscious enjoyment of the inanimate nature to be seen from it; consequently, a new class of comments upon the design are now sometimes heard; unfavorable comparisons are made between the park and certain foreign pleasure grounds, both with respect to the lack of opportunity for enjoying the sight of a large, gay, assemblage, and its entire want of stateliness and artistic grandeur. In these comparisons, and in the demands which they suggest, there are some important considerations which are generally overlooked.

In Southern Europe, where the ground is parched, and turf and delicate low foliage withers, unless carefully and laboriously watered and tended; where also, in most cases, rambling in the country, or beyond the outskirts of towns, is not only toilsome but dangerous; where ladies seldom go out of doors until after sunset, unless closely veiled; and where the people look for amusement almost exclusively to social excitements, public pleasure grounds have usually been important, chiefly as places of rendezvous and general congregation. Their plans hare been characterized by formal and stately plantations, and much architectural and floral decoration. Where anything like landscape effects have been attempted to be added to these, it has generally been, not as an invitation to exercise, but simply as a picture usually of a romantic and often of a distinctly theatrical character.

The primary and avowed object of such grounds is to supply people with accommodation for coming together to see one another, not merely as personal acquaintances, but as an assemblage.

A style of laying out grounds adapted to this purpose has, till recently at least, prevailed, not only in Italy, Spain, and Portugal, but throughout France, and where French influence has been strong, the woods and lawns of both public and private parks and chases are nearly always traversed by straight avenues, with well-defined circular carrefoures, often emphasized by architectural objects at their points of junction, as may be seen in the Bois de Boulogne. While, however, the custom of out-door assemblage, and of the promenade for recreation has been maintained, and has even become more important, a tendency to a different style in the preparation of pleasure grounds has been growing wherever the climate admits of its being adapted with success. The changes made in the plan of the Bois de Boulogne under the late Empire, those also in the Bois de Vincennes, the Parc de Monceau, and other grounds in France, and

the plan of the new park at Brussels, all show progress in this direction, though the liking for detached scenic effects which might be suitable for framing, or for the background of a ballet, still influences most French landscape work.

It is to be observed, too, that upon the completion of the Avenue de l'Impératrice as an approach to the Bois de Boulogne, and of the informal and narrow drive around the lake, with its various landscape effects, that part of this system of pleasure grounds which is laid out in the natural style was immediately adopted as the daylight promenade ground of Paris, in preference to the much wider, more accessible, more stately, and in every way more convenient and magnificent avenue of the Champs Elysees.

It will thus be seen that the grander and more splendid style of public pleasure grounds, while it is peculiarly adapted to display a great body of well-dressed people and of equipages to advantage, and is most fitting for processions, pomps, and ceremonies, while also it seems admirably to extend and soften architectural perspectives, and to echo and supplement architectural grandeur, is not preferred where there are moderate advantages for the adoption of a natural style, even for the purposes of a promenade. The reason may be that where carriages are used, in the frequent passing over the long spaces of bare surface which they make necessary, formal arrangements and confined scenes become very tiresome. In passing along a curving road, its borders planted irregularly, the play of light and shade, and the succession of objects more or less distinct, which are disclosed and obscured in succession, is never wholly without interest, while an agreeable open landscape is always refreshing, in contrast to the habitual confinement of the city.

In Northern Europe congregative recreation has, until recently, been a comparatively unimportant object in public parks, the popular idea of them being that of grounds in which people could stray away from the towns, either apart or in small detached parties. The difference of the two tastes and customs is shown by the fact that, while, before the recent improvements, the roadways of the Bois de Boulogne (although then only an occasional resort for the Parisian public) were nearly a hundred feet wide, with clean-cut borders, the principal promenade drive of London, though right in the midst of the town, was, so late as twelve years ago, a mere rural road from thirty to forty feet wide, encroached upon and made still narrower at some points by trees growing naturally.

If parks laid out in the manner of those of the North were at-

tempted on the Mediterranean, or in this country on the Gulf of Mexico or in California, they would be exceedingly dreary. Under such circumstances, it is not therefore simply a matter of taste or convenience, but in some degree a necessity, that devices of an obviously artificial character are used to make public grounds attractive.

In this latitude on the Atlantic slope, however, although a formal and highly ornate treatment is perfectly appropriate where the chief object of a public ground is that of a social rendezvous and promenade, it is not the only, nor always the most desirable treatment of it. If it is so situated as to command interesting views, for instance, it may be better that it should be laid out and furnished in such a way that these views will be seen through harmonious and suitable foregrounds. If there are disagreeable or incongruous objects near by, it is better that it should be supplied with boscage borders, which will be manageable screens against them.

In the nature of the case, adequate provision for simple, rural recreation requires large space of ground, it being a primary object to secure the greatest possible change of scene from the confinement and rigidity of the city, and to induce a sense of freedom and a disposition to ramble. This object has, moreover, to be reconciled, as has been shown, with that of maintaining neatness and good order, in spite of the careless and often reckless movement of many thousand people all turning out for exercise and recreation at once; and it is impossible of accomplishment, except on a site of considerable breadth, where large opportunity and invitation for dispersion can be given. It is better, on the other hand, that a drive intended to be used as a promenade should not be so far extended that a long period will be required to pass through it and see all who are upon it, nor should it be so wide that friends cannot be easily distinguished when passing on the opposite side. The avenue beyond the arch, and the drive about the lake, in the Bois de Boulogne, which is preferred to the wide avenues nearer Paris, is everywhere less than sixty feet wide, and in some parts less than forty.

It may then be said, that in the design of public grounds, two quite different uses of them, and two quite different artistic ideals may properly be had in view, and that under certain conditions of situation, soil, climate, and society, one only of these uses, and one only of these ideals can properly be controlling. Individuals must be expected to place a greater value on one or the other use, and to be better pleased with one or the other style of grounds, according to their habits and the bias of their natural or acquired tastes. There can be no greater

mistake, however, than to suppose that what has given great gratification in one place, or under one class of circumstances, will do so everywhere and anywhere, and that the neglect to use every opportunity of introducing it is an evidence of ignorance or bad taste. Because it is a very pleasant thing to see a great body of well-dressed people enjoying themselves in the open air, it does not follow that every pleasure ground should be designed with reference exclusively to that pleasure, and all its parts, furniture, and decorations be specially adapted to it; nor because, also, it is a very pleasant thing to find in the midst of a large town a winding road or walk, with borders on either side, of dense luxuriant foliage, or with a fair landscape opening from it, as completely free, as far as the eye can see, of anything artificial as if in the country, that nowhere in a public ground should there be conveniences for congregation, or any obvious display of human handiwork. In a park of five hundred acres, provision of both kinds may be furnished, but it is not wise to undertake to provide both at all points, and if the ground has a varied surface, it is unwise to pursue the congregative purpose in those parts where the suggestions of natural scenery are most interesting.

When the plan of your park was first outlined, it was intended to provide a ground within which citizens could not only withdraw themselves at some few points from the sight of town houses and town traffic, but in which they could wander for hours at a time, constantly finding new scenes of natural beauty. The whole of it was laid out with this purpose in view. At the same time, the growth of the tastes and habits which are gratified by joining a gay assemblage or throng was anticipated, and, to provide more completely for the demand which was thus expected to arise, it was recommended that two series of stately avenues should be provided outside the park. This recommendation was repeated and urged in three of your annual reports, and measures were at length taken to carry out the suggestion before any public demand for the purpose began to be manifested.

But experience teaches, as we have indicated, that no matter how fine and well adapted to their purpose such avenues may be made, even when their drives are exclusively used for pleasure carriages, where there is a rural park with good roads through it, also conveniently accessible, it will likewise be more or less used as a promenade, and this whether well adapted to that purpose or not.

Accommodations for large throngs of people, and advantages for observing these throngs, are then at some points desirable and

necessary, and means must be carefully studied of reconciling such accommodations with the purpose of giving the public the largest practicable extent of rural scenery, and of rural exercising ground. As, for this purpose, the drives must not, as already explained, be very wide, and as the movement both ways (in order to give opportunity for the recognition of acquaintances) must be slow, it is desirable that such provision should be originally secured in such a place that people can make a considerable circuit within the park, if they choose, without entering upon them at all.

The part of your park thus intended exclusively for rural recreation is complete within itself, and a circuit of it can be made upon both its drives and walks, without entering upon the promenade district, which, indeed, lies completely hidden from it, except as the tree-tops and the water within it extend the background of the view from certain points.

According to the plans you have approved, the portion of the drive more especially intended to be used as a promenade, is to be nowhere less than fifty feet in width; in the greater part, sixty feet. Its length, not including the turning-places at the ends, is to be three-quarters of a mile. A pad for saddle-horses will adjoin it, thirty feet wide. At certain points it will be separated a short distance from the drive, in order to avoid too extended a bare surface. Adjoining the pad, and again on the opposite side of the drive, are to be walks fifteen to twenty feet wide. Near the middle of the system sheltered galleries are arranged, where those who wish can sit and look upon those moving by. The width of the whole promenade ways at this point, for a distance of two hundred and fifty feet, is to be one hundred and eighty feet; the pad and the drive being thrown together, and the walks brought to curbs upon them. One of the walks will spread laterally to beaches or bays of the lake, and there will be an outlet from it upon a boat landing. Throughout the whole extent of the promenade ways a succession of views will be commanded, with the back to the sun over the lake. On the side toward the sun will be a dense plantation of trees and underwood. Planted points and islands are arranged to cover the broader bare spaces of the promenade from the view of boating parties and the opposite shores, and to supply strong foregrounds to the views northward. There are to be rows of trees within and upon the edge of the drive, it being impossible to avoid long spaces, which would be unpleasantly exposed to the sun by any wholly natural arrangement of trees, consistently with convenience of movement

where so many are expected to be passing together; but the bordering plantations are so arranged that the formality of these rows will not be noticed, except when close upon them. Looking beyond the exterior lines of the promenade walks, the scene will be perfectly natural and rural in character; so also the whole lake shore, except at one point, where preparation is making for promenade concerts.

Promenade concerts are common in many European pleasure grounds, but nowhere are the arrangements for them such as would be at all satisfactory to an American audience of the number which has frequently been found already in your park. They may be divided into two classes: those universal in German towns, common in French, and less so in British, where the audience is standing, walking, or sitting upon chairs, and frequently at tables at which refreshments are served, and those in which the greater part of the audience is in carriages, or walking about among carriages, as the Cascine at Florence, and on the Pincian Hill at Rome.

The music of a proper promenade band can be best heard only at a greater distance from the instruments than is desirable when listening to an ordinary indoor orchestra. It does not require close attention, and may be enjoyed while walking among the trees. It is common, however, for at least the central part of the audience to rest during the performance of each piece, and for the greater part of it to stroll or drive off, and return between the pieces. Where the audience is largely in carriages, there is always more or less movement in its outer part, and this, with the room necessarily taken by each vehicle and its horses, makes the number of those who can enjoy the music at all, with any arrangement hitherto used, very small. There is no carriage promenade concert in Europe which is largely attended by people on foot. In the best and most popular promenade concerts, it is customary for all who come in carriages, to leave them on arriving at the ground, and this both in small and large towns.

The plan of the concert grounds in your park is designed to secure the advantages of both the classes which have been described, and to avoid, as far as practicable, their disadvantages.

The orchestra is to be placed upon a small island, about one hundred feet from a semicircular sweep of shore, in the direction where the audience is expected chiefly to congregate. It is believed that with suitable instruments, at this distance over water, nothing will be lost of the sound, while it will prevent the disagreeable crowd-

ing together of a large number of persons close before the stand, where the music cannot be heard to advantage. Provision, however, is made for small boats to fasten along the shore below the level of the audience and of the floor of the music stand, and a large fleet may lie about it. The circuit drive of the park passes parallel with the shore, at a distance from it of five hundred and thirty feet; a short loop from it opens into a concourse, nearly five acres in area, sloping toward the shore, and occupying a quadrant of a circle surrounding the music stand. All parts of this are open to drivers and riders. Its southward outlets open into the promenade drive and ride.

A smaller carriage concourse (two acres) is situated upon the top of an eminence, five hundred feet to the northward, and carriages can either be driven to this and back, or a turn be taken in the promenade drive, if desired, between the pieces. It is believed that most music will be heard very well upon the higher concourse, which has the advantage for a hot summer's day of being strongly swept by the sea breeze passing over the music island.

North of the principal carriage concourse is an esplanade, with a grove for a promenade on foot. The lower part of this, for a distance of one hundred and seventy-five feet, is to be planted with plane trees, arranged at the intersection of concentric circular lines, with others radiating from the music island, as may be understood from the plan accompanying this report. Back of this, at a higher elevation, is to be a grove, pierced by three alleys on the lines of vistas opening toward the music island. In the rear will be an open pavilion, with tables and seats, and back of it a low house containing cloak and dressing rooms, and from which coffee and ices may be served. A series of awnings on fixed standards will cover seats in front of the trees on the esplanade, the passage in front of which is to be closed during the performance of music. There are also to be seats in the rear of the esplanade. It is expected, however, that the larger part of the audience collecting here will be moving during the intervals of the music, and will stand among the planes, or continue walking in the alleys of the upper grove during its performance. There are walks leading from the concert ground along the shore each way, and upon the face of Breeze Hill, looking toward the music-stand. The music will float across the lake, and be heard very well on the opposite shore, and more or less clearly at various more distant points.

As an agreeable, natural decoration of a space like the concert ground, designed to be mostly occupied by an audience, is imprac-

States & Koch 171 Pearl St. N.Y.

DESIGN FOR THE ARRANGEMENT OF PEDESTRIAN CONCOURSE.

SCALE: 120 FEET TO ONE INCH.

ticable, its plan is formal, and its decorations will be mainly architectural.

The ground-work of the whole of the park south of the Lookout Hill, having to be made from material excavated from the lake site, and every tree, shrub, and stone to be moved to it, and every variation from a plain surface to be formed, it will be some time before the design can be fully realized; but it is hoped that this statement of its intention will sufficiently show that, while the simplest form of healthful and educative rural education has been studiously provided for, the use of the park as a place to see people under pleasant circumstances, and in which to be cheered by the pervading gayety of a great company coming together simply for pleasure, has not been neglected.

No part of the park is designed with reference to use after nightfall. There are many reasons why it should not be. The attempt to light any large ground, planted closely, or with underwood in the natural style, sufficiently to make it a safe resort, always fails. If in the midst of a large town, its use for immoral and criminal purposes more than balances any advantages it may offer. It has been shown that where the climate makes the night the most agreeable time for open-air recreation, formal promenades between rows of trees, on regular, strongly defined and well lighted walks, are customary. Not only the parkways now under construction are of this character, but the park is designed to be surrounded on all sides with a broad avenue for carriages, and a well-lighted mall, thirty feet wide, for walking. Wherever practicable this is made to overlook the park, from which it is to be divided by a parapet three feet in height, the total height of the interior wall being eight feet. The Plaza is designed with a similar purpose, and the planting and lighting arrangements have been studied with special reference to night effects.

In our last report we spoke of that intention of the plan which is to be more especially realized in the pastoral district of the Long Meadow, and among the scattered trees of the West and Mid Woods which border it. The central walk leading from the Plaza to the hills and the promenade district, after passing through this open and, for the present, rather too sunny ground, reaches the edge of a pool of water in the lowest part of the meadow, which is also intended to be sunny and bright; it is then carried to the left, and passes through a shady ravine, from which it issues through the Nethermead Arches upon another broad and open space of greensward, with placid water in view beyond it. The ravine is designed to provide favorable con-

ditions for rich, dark, cool, and secluded effects, in contrast with the neighboring meadow, and with the scenery of the park generally, and connects with a small district of similar character, now under construction, which extends with a series of rambling walks and sheltered seats to the dairy cottage.

The usual statistics of construction, of the force employed, and of the public use of the park (which, it will be observed, has largely increased during the year), will be found in the appended reports of the engineers.

Respectfully,

OLMSTED, VAUX & CO.,

Landscape Architects and Superintendents.

THE MEADOWPORT ARCH.

OLMSTED VAUX & CO., LANDSCAPE ARCHITECTS.

REPORT OF ENGINEER IN CHARGE.

PARK COMMISSION, CITY OF BROOKLYN,
ENGINEER'S OFFICE, *January 1st*, 1871.

MESSRS. OLMSTED, VAUX & CO.,
Landscape Architects and Superintendents.

Gentlemen: I submit a report of operations of construction for the past year.

The granite steps, the coping, and the stone and brick panels for the fountain basin at the Plaza have been finished. A temporary arrangement of pipes, for jets at the center of the basin, has been used during the season.

The track of the Brooklyn City and Hunters Point Railroad has been laid across the Plaza, from Vanderbilt to Ninth avenue. The Belgian pavement in the Plaza, near the fountain, has been completed. Connections have been made with a sewer laid through the West Plaza street by the Water Board.

A wood lining has been put under the Meadowport Archway. The Nethermead Arches have been pointed and finished. Foundations have been built for a stable near the dairy; and the stable, of wood, is in progress of construction by contract. Stone inclosing walls have been built for a stable-yard. Two rustic shelters have been built, one overlooking the meadows from a point near the west drive, the other on the north side of the Ambergill.

A bridge of bowlder stone has been built, carrying a walk over the Ambergill, and a large amount of rock-work has been constructed at various points.

The carriage concourse east of the lake has been graded, and only requires surface metal for its completion. A considerable amount of work has been done on the adjacent pedestrian concourse, in accordance with a plan for its completion adopted during the year. The portion of the ride near the dairy has been finished, and a branch to the dairy begun.

The main walk leading to the dairy has been finished, and the system of walks in that neighborhood has been graded, and will be ready for completion in the spring. Numerous stone steps have been set in the different walks, also one carriage landing-step.

The walks between the carriage concourse, east of the lake, and the entrance from Franklin avenue, have been finished. The walks on the lake peninsula have been sub-graded.

Franklin avenue has been graded, the curb and gutter set, and the street opened for use from the eastern boundary of the parade ground to Flatbush avenue.

The entrance drive at the southeasterly angle of the park has been finished.

The Ambergill Brook has been finished to its connection with the large pools.

The slopes of these pools have been formed and shaped. The peat has been removed from them and piled for future use. A dam and waterfall has been built between the two pools, and one commenced at the head of the upper pool.

A large amount of excavation has been made for the main lake. About eight and three-quarter acres of additional lake surface has been puddled and finished. A dam has been built in connection with this work, and the area of finished water surface increased to about twenty-three acres.

Tile drainage has been put in near the Third street entrance, and some stone drainage in a portion of the West Woods. A fifteen-inch main sewer has been extended to the lower pool. A sewer connection has been made between the dairy and the stable. The basins and pipes have been put in for the drainage of the walks constructed during the year.

Early in the spring a system of perforated pipes was laid in the sand, between the outer and inner curbs of the well, for the purpose of obtaining a more rapid flow of water. The result has been quite favorable, increasing the supply to the pumping-engine.

The boiler house at the well has been finished. The interior walls of the well have been pointed. The reservoir on the summit of Lookout Hill has been constructed, and is nearly complete.

The inclosing walls, and the bottom of this reservoir, are formed entirely of concrete. The roof is of brick arches, sprung from piers and counter-arches. It is intended to use the roof as a concourse for pedestrians. The capacity of the reservoir is 750,000 gallons.

The ground adjacent to the Third street entrance has been shaped

and seeded, and also a small portion of that west of the drive, between Third and Ninth streets. The woodland east of the west drive, and the meadows as far as the pools, have been finished; also the grounds in the vicinity of the dairy, along the ride, and through the Ambergill hollow. The Nethermead has been completed and seeded. The ground near the southeasterly angle of the park has been seeded.

A large portion of the peninsula has been graded, and has received the necessary top soil.

WASHINGTON PARK.

An arbor has been built and painted, and a tar concrete pavement laid under it. Tar concrete pavement has also been laid on a number of walks. Granite steps have been set in the walk running from Canton street to Fort Greene place. A portion of the inclosing wall of the park has been built by contract.

TOMPKINS SQUARE.

A portion of the filling required to grade this square has been made by contract. The soil has been stripped and piled for future use.

The customary tables of statistics of the work done on the parks are as follows:

TABULAR STATISTICS OF CONSTRUCTION UP TO JANUARY 1, 1871.

DRIVES.

Drives	finished,	60	feet wide	.....	379 lin. ft.
"	"	52	"	.....	277 "
"	"	50	"	.....	1,441 "
"	"	46	"	.....	5,546 "
"	"	40	"	.....	12,598 "
"	"	30	"	.....	1,500 "
"	"	27	"	.....	1,610 "
"	"	23	"	.....	1,550 "
"	"	50	"	(Franklin avenue)...	3,100 "
Total length of drive finished					28,001 "
					or $5\frac{3}{10}$ miles.

Drives in progress, 50 feet wide	750	lin. ft.
" " 40 "	1,610	"
" " 50 " (Franklin avenue)	650	"
Total	3,010	"
	or $\frac{57}{100}$	miles.

CONCOURSES.

Finished concourse for carriages, Plaza	276,112	sup. ft.
" " " Park	119,350	"
" " for pedestrians, Plaza	26,742	"
" " " Park	59,300	"
" " " Washington P'k.	78,832	"
" " " Parade Ground	21,600	"
Total area of finished concourse	581,936	"
	or $13\frac{36}{100}$	acres.

Concourse in progress, for carriages, Park	203,650	sup. ft.
" " for pedestrians, Park	153,200	"
" " " Washing'n P'k.	93,960	"
" " " Parade Gr'nd	4,000	"
Total	454,810	"
	or $10\frac{4}{100}$	acres.

RIDES.

Rides finished, 20 feet wide	4,190	lin. ft.
" " 16 "	625	"
" " 15 "	2,050	"
" " 8 "	600	"
Total length of ride finished	7,465	"
	or $1\frac{41}{100}$	miles.

Rides in progress, 30 feet wide	950	lin. ft.
" " 20 "	1,825	"
" " 15 "	900	"
" " 12 "	275	"
Total	3,950	"
	or $\frac{75}{100}$	miles.

WALKS.

Walks finished, 20 feet wide	914	lin. ft.
" " 16 "	16,761	"
" " 14 "	400	"
" " 12 "	10,035	"
" " 10 "	1,444	"
" " 8 "	515	"
" " $52\frac{1}{2}$ " (Washington Park)	496	"
" " 16 " "	775	"
" " 14 " "	4,300	"
" " 12 " "	1,857	"
" " 10 " "	622	"
" " 8 " "	505	"
" " 8 " (Carroll Park)	2,275	"
Total length of finished walks	40,899	"
	or $7\frac{75}{100}$	miles.

Finished walk at Prospect Park	$5\frac{7}{10}$	miles.
" at Washington Park	$1\frac{62}{100}$	"
" at Carroll Park	$\frac{43}{100}$	"
Walks in progress, 30 feet wide	7,516	lin. ft.
" " 25 "	2,175	"
" " 20 "	8,943	"
" " 16 "	1,436	"
" " 12 "	5,625	"
" " 10 "	1,773	"
" " 8 "	1,500	"
" " 14 " (Washington Park)	164	"
Total	29,132	"
	or $5\frac{52}{100}$	miles.

DRAINAGE.

18 inch vitrified pipe laid			1,782	lin. ft.
15	"	"	8,437	"
12	"	"	9,370	"
10	"	"	2,684	"
8	"	"	10,253	"
7	"	"	305	"
6	"	"	21,619	"
5	"	"	1,619	"
4	"	"	2,785	"
$2\frac{1}{2}$	"	"	675	"
10	"	" (Washington Park)	315	"
8	"	" "	680	"
6	"	" "	2,066	"
5	"	" "	1,234	"
4	"	" "	2,707	"
6	"	" (Carroll Park)	97	"
4	"	" "	310	"
6	Cement	"	142	"
Total			67,080	"
			or $12\frac{7}{10}$	miles.

Tile pipe laid, 3 inch			20,556	lin. ft.
"	"	$2\frac{1}{2}$ "	25	"
"	"	2 "	28,400	"
"	"	$1\frac{1}{2}$ "	7,637	"
Total			56,618	"
			or $10\frac{72}{100}$	miles.

WATER DISTRIBUTION.

Wrought iron and cement pipe, 16 inch			3,023	lin. ft.
"	"	" 12 "	2,548	"
"	"	" 6 "	10,550	"
"	"	" 4 "	3,407	"
Total			19,528	"
			or $3\frac{7}{10}$	miles.

Cast iron pipe, 20 inch	347	lin. ft.
" " 16 "	29	"
" " 12 "	2,842	"
" " 8 "	191	"
" " 6 "	78	"
" " 4 "	8	"
" " 3 "	53	"
" " $2\frac{1}{2}$ "	10	"
" " $1\frac{1}{2}$ " galvanized	450	"
" " 1 " "	1,427	"
Total	5,435	"
	or $1\frac{3}{100}$ miles.	

Lead and tin pipe, $\frac{3}{4}$ inch	802	lin. ft.
" " $\frac{1}{2}$ "	294	"
" " $\frac{3}{8}$ "	1,064	"
Total	2,160	"
	or $\frac{41}{100}$ miles.	

Check-valve	1
Blow-offs and branches	76
Stop-cocks	40
Air-cocks	12
Hydrants	35
Reducers	4
Meters	2
Stop-cocks, Washington Park	11

Gas pipe laid, 4 inch	700	lin. ft.
" 3 "	88	"
Total	788	"
	or $\frac{15}{100}$ miles.	

Iron fence set (Washington Park)	703	lin. ft.

AREA OF OPERATIONS UP TO JANUARY 1, 1871.

Area worked over up to January 1st, 1871	411	acres.
" " " (Washington Park)	30	"
Surface finished, meadows and slopes	172	"
" " woodland	51	"
" " water surfaces	23	"
" " roads and walks	50	"
Total	296	"

Surface seeded	216	acres.
Surface finished (Washington Park)	23	"

MASONRY.

Amount of brick masonry	3,573	cu. yds.
" " (Washington Park)	76	"
" stone masonry	6,883	"
" " (Washington Park)	468	"
" concrete	3,697	"
" " (Washington Park)	397	"
" steps set	5,843	lin. ft.
" " (Washington Park)	646	"
" curb set	72,335	"
" " (Washington Park)	677	"
" Belgian pavement laid	298,822	sup. ft.
" cobble " "	70,016	"
" brick " "	27,114	"
" " gutter "	21,148	"
" Telford " "	51,249	"
" cobble " "	19,582	"
" flag stone " "	9,653	"
Tar concrete pavement laid	399,871	sup. ft.
" " " (Washington Park)	210,051	"

AMOUNT OF STONE BROKEN.

McAdam stone by stone breaker	16,214	cu. yds.
Telford and building stone by hand	9,653	"
" " " (Washington Park)	2,569	"
Spall stone by hand	12,956	"

MATERIAL MOVED.

		During 1870.	Total to Jan. 1st, 1871
For grading and shaping drives, rides, walks, meadows, and slopes	cub. yds.	44,910	461,280
For lakes, pools, and streams	"	145,425	626,483
For Plaza	"		172,355
For sewers, drains and water distribution	"	4,839	90,681
Soil	"	45,201	455,973
Peat	"	5,636	72,202
Clay	"	7,261	37,411
Manures and compost	"	6,117	42,217
Stone	"	3,863	87,129
Gravel and sand	"	13,596	98,963
Miscellaneous	"		18,446
Total cubic yards		276,848	2,163,140
Material moved at Washington Park		2,335	92,249
Total cubic yards		279,183	2,255,389

ENGINEER CORPS.

The assistant engineers engaged during the past year have been Mr. Thomas Stratford and Mr. John B. Duncklee, at Prospect Park, and Mr. Thomas P. Kinsley, on the parkway.

Respectfully submitted,

JOHN BOGART,

Engineer in Charge.

REPORT OF ASSISTANT ENGINEER.

PROSPECT PARK, *January* 1, 1871.

JOHN BOGART, Esq.,
Engineer in Charge.

Sir: I submit herewith a report of details concerning the management and operations of the force, together with an account of the means and materials employed in the construction and maintenance of the several parks, under the control of the Commissioners, for the year ending December 31, 1870.

The usual inventory of tools and supplies accompanies this report.

The larger part of the year's operations have been confined to the lower end of the park, or lake district, and the development of the ground about the Glen Farm-house and pic-nic grounds.

The mechanical work has been less than the previous season, and has mainly consisted in the completion of the Nethermead and Meadowport Arches, a rustic bridge or culvert in the Glen, the boiler house, the reservoir on Lookout Hill, and four rustic shelters.

In addition to this, an ornamental structure for a shelter and lookout on the east drive is in hand and approaching completion.

The work of completing the cover or roof to the well is in progress, the wood and iron work being nearly ready to be put up.

FORCE.

During the working season the average of men and teams employed was 794, being a less force than has been engaged during any previous season of the same duration.

The following statement shows the average number of employed force during each month of the year, and also for the preceding years since the organization of the work in 1866:

Statement showing the average number of employed force for the months and years noted.

Active operations commenced on the park in the latter part of June, 1866.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1866.....	.....	.....	.....	.....	.....	300	335	450	550	620	700	725
1867.....	700	630	410	800	1000	1150	1200	1525	1750	1825	1800	1100
1868.....	944	812	508	1215	1047	1189	1095	1090	1116	1118	1167	912
1869.....	740	698	746	946	959	988	991	1006	975	946	552	204
1870.....	139	134	134	164	594	721	661	730	806	839	853	845

Exhibit of the days during which the main force was employed, and of the days when the weather partially or entirely prevented the prosecution of the work:

Whole number of full days when the main force was em-
employed..... 282
Whole number of days when the weather interrupted the
work 26

WASHINGTON PARK.

The operations on this park during the past year have mainly consisted of a small amount of finishing surfaces, and completing planting, for which a small force of twenty-six men for one month, and seven gardeners for the working season only, have been employed. The large trellis was completed early in the season, and was much used by the public during the summer months.

The work was entirely suspended from January 1 until May 9, 1870.

The following table shows the average force employed, by months, during the years 1868, 1869, and 1870:

Work begun June, 1868. Work suspended December, 1869. Work suspended till May, 1870.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1868.....	.....	.....	.....	.....	.....	96	89	133	136	139	132	72
1869.....	36	35	41	80	79	69	68	61	66	58	50	.....
1870.....	.....	.....	.....	.....	7	7	7	7	7	33	7	7

ORGANIZATION.

The force for the year was made up as follows:

One general foreman.
Nine barrow gangs (one at Washington Park), average 31 men each.
Three cart gangs, average 33 men, 34 carts each.
One team gang, average 28 men, 33 teams.
One stone-breaking gang, 15 men.
One miscellaneous gang, 22 men.

Of this force, 25 men, 5 teams, and 10 sprinkling carts were required for the work of maintenance, repairs, and cleaning of roads, basins, and water-ways; to which is added a force of gardeners in the spring and summer, for the care of shrubbery, mowing, etc.

MECHANICAL FORCE—STONE-CUTTERS, STONE AND BRICK MASONS.

One foreman of stone-cutters, averages 13 stone-cutters.
One foreman of stone-masons, averages 11 stone-masons.
One foreman of brick-masons, averages 15 brick-masons.
One foreman of carpenters, averages 15 carpenters.
One foreman of blacksmiths, averages 2 blacksmiths.
One foreman of rustic work, averages 2 rustic carpenters.

PLANTING AND GARDENING FORCE,

under the supervision and direction of the park inspector, Mr. O. C. Bullard, as follows:

One foreman.
One assistant foreman.
Six skilled gardeners.
Ten skilled laborers.
One hundred and one laborers.

The division and arrangements of labor remain the same as heretofore, as does also the keeping of time and accounts of work, and of complete vouchers and records.

APPOINTMENTS.

During the year there have been appointed:

1,187 laborers.
207 horses and carts.
66 teams.
144 miscellaneous appointments.

DISCIPLINE.

The following is an abstract of the record regarding promotions, suspensions, and discharges occurring during the year:

APPOINTMENTS AND PROMOTIONS.

Number of foremen appointed	21
Number of assistant foremen promoted to foremen	3
Resignation of foremen	2
Foreman died	1

SUSPENSIONS.

Number of assistant foremen suspended for breach of discipline.	2
Number of laborers " "	175
Number of horses and carts " "	43
Number of teams " "	21

DISCHARGES.

Number of foremen discharged for intoxication	1
Number of laborers discharged for inefficiency	349
Number of horses and carts discharged for inefficiency	39

In this connection, I would call your attention to the report of

the general foreman, as a matter of interest, concerning the force, for whose management he is directly responsible:

DECEMBER 31, 1870.

JOHN Y. CULYER, *Engineer in Charge.*

Sir: For the year ending December 31, 1870, I feel gratified in being able to report a smaller number of discharges and suspensions of foremen and assistant foremen compared with what it has heretofore been my duty to bring to your notice. All the foremen employed during the year have been at least three years under the present management, a majority of them since the commencement of the work, and all thoroughly disciplined and drilled in its requirements. They have done well throughout the year, seeming to vie with each other, as well in executing the work rapidly, as in conforming to the rules. All of the assistant foremen have been employed on the park upward of three years, with one exception, Wm. H. Furey, who was appointed in May last.

The men applying for work on the laboring force have hardly been up to the average of those employed during 1869. This will account for the unusually large number of discharges and suspensions recorded in the discipline book.

There have been three promotions of assistant foremen to the rank of foremen, viz., John Wallace, Andrew Veith, and Hugh Thompson. One foreman discharged for intoxication; two have resigned; one has died; and one assistant has been suspended for neglect of duty. The highest number of foremen employed at any time has been fifteen, and of assistant foremen, five.

Respectfully submitted,
JOHN MAGUIRE,
General Foreman.

ACCIDENTS.

One case of sunstroke occurred during the extreme heat of the summer, which, owing to prompt application of the remedies provided by the Commission for such cases, did not result fatally.

Twenty runaways have been reported; no fatal accident has occurred; no serious result has followed, except in two cases.

Two laborers were seriously injured by the falling of earth; to neither, however, has the accident proved fatal.

The body of a man was found in the lake district in the early part of the year. The result of the coroner's inquest was, that the man had been intoxicated, and losing his way across the park, was frozen to death.

A child was drowned in the fountain-basin during the summer, the result of gross carelessness on the part of those having charge of her.

KEEPERS.

The keeper force has remained substantially as previously reported.

The organization is made up as follows: Two head keepers, one station officer, four wardens, twelve range keepers, and twenty-six post keepers.

It is to be understood that this force maintains police supervision upon all the parks under the control of the Commission, and during the year was distributed as follows:

12 rangers, Prospect Park;
20 post keepers, Prospect Park;
3 post keepers, Washington Park;
1 post keeper, Carroll Park;
2 post keepers, City Park;

and comprehends a daily inspection by a head keeper of all the smaller parks under the jurisdiction of the Commissioners.

During the year, two wardens, one ranger, and two post keepers have resigned. One warden has been promoted to station officer, one ranger to warden, and one post keeper to ranger. One station officer, two wardens, five rangers, and twelve post keepers have been suspended for breach of discipline. One station officer, two rangers, and four post keepers have been discharged for neglect of duty and inefficiency.

ARRESTS.

Thirty-one arrests were made during the year, of which the following is the summary:

For fast driving	17
For disorderly conduct	10
For interfering with keepers	4

PARK POUND.

The continuance of the park pound has had the effect of keeping in restraint numbers of animals, in the neighborhood of the park, which formerly ran at large, to the detriment of the grounds.

PUBLIC USE OF THE PARKS.

During the year records have been made of the number of people visiting the park, and the results in detail will be found in the following statement:

Month.	Vehicles.			Equestrians.			Pedestrians.			Total Visitors.		
	1868.	1869.	1870.	1868.	1869.	1870.	1868.	1869.	1870.	1868.	1869.	1870.
January	11,440	36,719	57,936	1,301	4,031	4,755	62,012	73,500	35,000	94,443	187,688	213,563
February	16,476	37,888	37,385	510	4,960	2,942	42,504	81,761	17,806	90,982	150,385	132,903
March	16,085	43,740	39,402	3,304	6,380	4,329	27,281	32,820	17,255	75,933	170,420	139,790
April	19,089	53,430	69,599	5,287	4,671	7,675	25,942	45,125	47,115	88,502	210,086	263,587
May	38,871	75,636	93,713	7,623	11,242	8,975	69,478	65,049	99,350	194,457	303,199	389,464
June	65,485	82,620	102,647	8,825	7,884	8,172	102,544	87,441	103,157	308,988	343,185	419,272
July	52,877	68,226	100,638	5,214	5,133	5,490	98,967	102,203	127,960	266,821	312,014	435,364
August	51,133	80,339	87,703	6,369	4,270	4,407	117,425	91,315	116,898	277,193	336,602	384,414
September	37,349	70,717	106,183	4,863	5,072	7,138	60,322	74,667	97,100	177,242	291,890	422,787
October	49,684	80,417	127,442	8,329	7,163	7,898	72,325	98,305	84,284	229,942	346,719	474,208
November	44,909	50,073	90,025	10,113	5,847	7,306	44,027	29,091	48,952	188,247	185,157	326,333
December	18,200	34,435	57,813	3,180	3,101	5,397	86,056	14,788	63,479	144,042	121,194	242,295
Total	421,598	714,240	970,486	64,918	69,754	74,484	808,383	746,065	858,356	2,136,792	2,958,539	3,843,980

The whole number for the year is 3,843,980. The largest number of visitors on any one day was 50,274, October 28. 856,005 persons visited the park on Sundays. 74,484 equestrians have made use of the park; this is 4,730 in excess of the preceding year.

During the summer and fine fall weather the west woods were in constant use for large social parties, and the pic-nics of friendly associations, Sunday school, church, and temperance societies. There have been four hundred and forty-nine of these gatherings during the season.

Tables, seats and swings were provided, as heretofore, without charge. No accident has occurred.

PARADE GROUND.

The shelter erected for the use of the military was put into use during the spring parades.

The turf of the parade ground, by frequent cutting and rolling, has become firm and even. Preceding each parade, the whole area was closely mowed and otherwise put into a condition to facilitate, as far as possible, the operations of the military.

There have been six parades, two division and four brigade. The ground has also been made use of by ball clubs, and three hundred and ten games of ball, seven of lacrosse, and ten games of cricket were played in the course of the year.

SKATING.

During the latter part of 1869, and early in 1870, owing to the peculiar weather that prevailed, it was found that the ice remained at no period sufficiently firm to justify the use of the pond by the public for skating purposes.

There were six days' skating during the current year, from 26th to 31st December, inclusive. The pond area has been increased to twenty-two acres, making it the most extensive sheet of ice in this city, and about the same area as the largest pond at Central Park.

TREES AND SHRUBS.

The following statements show the number of deciduous trees, shrubs, evergreens, etc., purchased; also the stock on hand, together with the number of each that have been planted during the year:

ON PROSPECT PARK.

STATEMENT SHOWING THE NUMBER OF TREES, SHRUBS, ETC., RECEIVED DURING THE YEAR ENDING DECEMBER 31ST, 1870.

Deciduous Trees.	Deciduous Shrubs.	Ever-greens.	Vines & Creepers	Herbaceous Plants.	Bedding Plants.	Flower Bulbs.	Ferns.	Aggregate.
49	682	5,105	1,200	111	296	1,400	20,000	28,843

STOCK IN NURSERY, DECEMBER 31ST, 1870.

Deciduous Trees.	Deciduous Shrubs.	Evergreens.	Vines and Creepers.	Herbaceous Plants.	Ferns.	Aggregate.
19,087	31,522	32,407	3,160	1,287	14,000	101,463

STATEMENT SHOWING THE NUMBER OF TREES, SHRUBS, ETC., SET IN PERMANENT PLANTATIONS DURING THE YEAR.

Deciduous Trees.	Deciduous Shrubs.	Ever-greens.	Vines and Creepers.	Herbaceous Plants.	Ferns.	Bedding Plants.	Flower Bulbs.	Aggregate.
4,104	19,646	5,031	4,780	10,179	11,726	296	1,400	57,162

Six trees, twenty-seven shrubs, seventy-five herbaceous plants, and a quantity of myrtle, were presented to the park by Mr. Stella, corner of Wyckoff street and Carlton avenue; several fine oleanders, by Mrs. S. B. Freeman, 89 Houston street; two large evergreen trees, by Mr. Henry Wall, Flatbush; one maple tree, by Mr. Jonathan Longmeyer, Flatbush; one fine specimen golden arbor vitæ, and several evergreens and perennial plants, by Mr. A. G. Burgess, East New York.

WASHINGTON PARK.

STATEMENT SHOWING THE NUMBER OF TREES, SHRUBS, ETC., PLANTED ON WASHINGTON PARK DURING THE YEAR.

Deciduous Trees.	Deciduous Shrubs.	Evergreens.	Vines.	Aggregate.
1,534	3,382	556	120	5,592

CARROLL PARK.

STATEMENT SHOWING THE NUMBER OF TREES, SHRUBS, ETC., PLANTED AT CARROLL PARK DURING THE YEAR.

Deciduous Trees.	Deciduous Shrubs.	Evergreens.	Aggregate.
28	207	143	378

PARADE GROUND.

Deciduous trees planted during the year..... 108

CITY HALL PARK.

Evergreens.	Herbaceous Plants.	Aggregate.
6	18	24

AMOUNT OF PEAT AND FERTILIZERS ON HAND.

AT PROSPECT PARK.

Crude peat..... 4,856 cubic yards.
Stable manure, compost..... 2,437 "
Fish " ..... 276 "
Nightsoil " ..... 962 "

WASHINGTON PARK.

Stable manure compost..... 120 cubic yards.

The tree-moving machines constructed in 1867 have been in effective use during the season for transplanting trees.

During the year 843 trees have been moved either by means of these trucks or stone boats.

During the past season the two temporary places for refreshment, established two years since, and found to extend desired facilities to the public, have been continued.

Among the gifts to the Commission is included a Turkish caique, brought from Europe especially for the park by Mr. Beach, of Columbia street.

Also an Indian birch bark canoe, of a picturesque form, which

forms a striking contrast with the one just noted, as they float together upon the water.

This canoe, in complete condition was presented to the Commission by Mr. Wm. H. Hallock, formerly editor of the *Journal of Commerce*, and now resident of Brooklyn.

The stock of machinery and implements, such as engines, derricks, trucks, and tools of a larger and more bulky description, is ample for the ensuing season, and this portion of the property of the Commission is now being put into good working condition. In this connection, it may be proper to refer to the necessity for an early execution of the plan for a substantial maintenance store-yard for the care and accommodation of supplies and materials.

During the year two large flag-staffs have been prepared for the Parade Ground.

PARK SETTEES OF IRON AND WOOD.

100 seven feet long.
50 five feet long.
40 four feet long.
36 rustic bird-houses.

A sufficient water supply has been maintained throughout the season for the public benefit.

A supply of building stone is on hand, consisting of sand-stone and granite, suitable for dressed foundation wall, the exact quantities of which will be found in the inventory.

HORSES AND WAGONS.

There are eight horses in good condition the property of the Commission; also, three heavy wagons, two one-horse heavy wagons for field use, and two one-horse wagons for use of the landscape architects and superintendents.

The several assistants connected with the supply and disbursing departments have intelligently and faithfully performed their duties throughout the year.

Respectfully submitted,

JOHN Y. CULYER,
Assistant Engineer in Charge.

THE CLEFTRIDGE SPAN.

OLMSTED, VAUX & CO., LANDSCAPE ARCHITECTS.

TWELFTH ANNUAL REPORT

OF THE

COMMISSIONERS OF PROSPECT PARK.

JANUARY, 1872.

COMMISSIONERS.

JAMES S. T. STRANAHAN,
JOHN H. PRENTICE,
EDWARDS W. FISKE,
WILLIAM MARSHALL,
ABIEL A. LOW,

SEYMOUR L. HUSTED,
ABRAHAM B. BAYLIS,
STEPHEN HAYNES,
ISAAC VAN ANDEN,
SAMUEL S. POWELL, *Ex-off.*

PRESIDENT.

JAMES S. T. STRANAHAN.

SECRETARY.

JOHN H. PRENTICE.

COMPTROLLER AND COUNSEL.

JOHN N. TAYLOR.

LANDSCAPE ARCHITECTS AND SUPERINTENDENTS.

OLMSTED, VAUX & CO.

CHIEF ENGINEER.

JOHN Y. CULYER.

CLERK.

FRANCIS G. QUEVEDO.

STANDING COMMITTEES OF THE BOARD.

EXECUTIVE COMMITTEE.

JOHN H. PRENTICE,
SEYMOUR L. HUSTED,
STEPHEN HAYNES,
EDWARDS W. FISKE.

FINANCE COMMITTEE.

ABRAHAM B. BAYLIS,
SAMUEL S. POWELL,
ABIEL A. LOW,
WILLIAM MARSHALL.

AUDITING COMMITTEE.

ISAAC VAN ANDEN,
JOHN H. PRENTICE.

TWELFTH ANNUAL REPORT

OF THE

COMMISSIONERS OF PROSPECT PARK,

FOR THE YEAR 1871.

TO THE HONORABLE THE MAYOR AND COMMON COUNCIL OF THE CITY OF BROOKLYN:

The Brooklyn Park Commissioners respectfully present this report of their proceedings for the year 1871, and they append a statement of their receipts and expenditures during the same period, with a full detail of active operations on the several parks under their charge, as shown by the reports of their landscape architects and chief engineer.

One of the most important, and to our taxpayers by far the most interesting, of the various transactions which engaged the attention of the Board at the time of presenting their last annual report, was the establishment of the city's right to sell a portion of land in Prospect Park situated on the easterly side of Flatbush avenue. As the validity of the act of the Legislature which authorized a sale had been publicly impeached, a cloud was cast upon the title which it became necessary to remove before the property could be brought into market with any probability of a successful result. And for the purpose of testing the question before our highest legal tribunal, proceedings had then been taken by the Commissioners.

A full statement of the case as presented by the sale to Mr. Armstrong of a lot of land within the disputed territory is contained in that report, and need not here be repeated. The Commissioners have now the pleasure of reporting that the results of that litigation have proved entirely satisfactory, and fully justify the position assumed by the Board in regard to the sale of this land.

The Court of Appeals hold in direct terms that the city acquired an absolute estate in all lands taken for the park under the act of 1861, which act it will be remembered provides for the establishment of this park. That the estate thus acquired was not a mere use or easement in the land, but an absolute fee, entirely free from any reversionary right of the original owners. That in the exercise of the right of eminent domain, the Legislature is the sole judge to what extent the public use requires the extinguishment of the owner's title, and that its power in this respect is not limited by any constitutional restriction. That the idea of establishing a public park carries with it more than the mere use of an extensive area of land to be passed over, or but temporarily occupied by the public, and over which any private owner may still exercise acts of ownership, since the alteration of surface, and the expensive processes of drainage and of planting, through which the land must pass before it can become a complete park, necessarily requires permanency and exclusiveness of public control, and that, therefore, the power to take land for such purposes must carry with it the right to acquire the largest title in the land taken.

Upon referring to the act of 1861, the court found it to be expressly declared that after legal proceedings to acquire the land and to ascertain the amount of compensation which should be paid to the owners therefor, had been taken and were confirmed by the court having the matter in charge, the land itself should be the absolute property of the city; and that it could not have been intended that the owner should receive the full value of his property and yet have left to him a reversionary interest in it. And with respect to that provision of the act which declares that the city took the title for public use as a park, the court held that so long as the title remained in the city, it was, of course, held in trust for that purpose, but that it was within the power of the Legislature to relieve the city from the trust, and to authorize it to sell and convey, when the land was no longer required for public use, and that it did this in direct terms when, by the subsequent act of 1870, it directed a sale of the land to be made by the Park Commissioners.

The opinion of the court, delivered by that admirable jurist,

Mr. Justice Folger, so fully meets the many objections that were urged when the matter was open for public discussion, by persons interested in defeating the sale as well as by others who are entitled to a more respectful consideration, that the Commissioners deem it advisable in this connection to refer to some of the more prominent of those objections, in order to show how fully they were considered and disposed of by the court in giving its decision.

It was insisted by some of the objectors, that the practical effect of these two acts of the Legislature, when taken together, was to take the property of one individual and transfer it to another, for the benefit of the city. But the court say there is no foundation for such an inference, that the act of 1861 was passed in good faith by the Legislature, to meet a then public emergency; that the necessity of exercising the power of taking private property for public use rests with that branch of the government, and that there is no restraint upon its power, save that of requiring compensation to be made. But if the Legislature erred in 1861, in the exercise of this power, and mistook a seeming for a real necessity, its further action in 1870 was not thereby rendered invalid. Under the act of 1861, all the steps were taken that were legally required for the appropriation of these lands, and the payment therefor. At once, on the appropriation of the lands, the owner became entitled to his compensation, and as soon as that was paid, the land became the absolute property of the city, and there was no reverter. The Legislature could at any time afterwards relieve the city from the trust to hold for the purposes of a park, and empower it to sell. This was done by the act of 1870, and, so far as any express limitation in our State constitution is concerned, the court declares that the Legislature had full power in the premises.

It was also claimed that the city, by laying out a park, and filing maps thereof, was estopped by its own acts, from selling any part of the land embraced within the park, for as much, as such acts of the city had created a species of contract between the city and adjacent owners, that the land should always remain a park; and that the value of neighboring property having been increased in anticipation of the creation of this park, and greater assessments and taxes having, in con-

sequence thereof, been laid and paid, that an obligation arises on the part of the city in the nature of a contract not to sell. The court, however, repudiate the idea of a contract, and affirm the principle of a former decision, where it was held that if a street be discontinued, and the value of lands abutting on other parts of it, or on neighboring streets, is lessened, it is not such an injury to the owner as will entitle him to damages. The city of Brooklyn, they say, was not the grantor of the neighboring owner, and did not induce him to buy it, by any declared purpose of creating this park. Any enhanced value of his property was an incidental benefit to him in its greater readiness of sale at an increased price, and any depreciation in value is an incidental detriment. The same results flow, in greater or less degree, from the commencement or abandonment of any of the measures of municipal enterprise, whether general or local. But it would be going too far to hold, in the absence of any direct and particular relation between the city and the owner of real estate, that after a projected public work had favorably influenced the value of his property, he could forbid the abandonment of it, or that there existed any enforceable right if it was abandoned. The general good is always to prevail over partial individual inconvenience.

After this emphatic approval of the city's title, by the highest legal authority in our State, the Park Commissioners took measures for carrying out the directions of the Legislature, contained in the act of 1870, by making arrangements to sell the property referred to at as early a day as practicable. To this end, and preparatory to a sale, they have been engaged in putting the land in merchantable condition, by perfecting a plan for the laying out of streets and avenues radiating from the Plaza, and connecting with the widened streets and avenues south and east of Washington avenue, opening up through the hills east of the Plaza, a continuation of the newly-improved Sackett-street avenue, and using the excavated earth for filling in the low lands on the tract, and bringing them up to the grade of Washington avenue. The Commissioners hope to be able to announce, at an early day, the completion of their arrangements for the sale of a portion of this land, and for a continuation of sales from time to time, as may be deemed expedient.

With respect to the bondholders' lien which is said to exist upon this, as well as upon all other park lands, the Commissioners are more than ever satisfied that it is so strictly technical in its character that it can never operate injuriously upon a sale of the property. In addition to their own views of this matter expressed in their last annual report, the Commissioners refer with pleasure to the decision of the Court of Appeals, corroborating their opinion of the position in which a purchaser will stand after the consummation of a sale. It is true, say the court, that a technical lien subsists, but there is no danger that the premises will ever be called upon to contribute to the payment of these bonds. The probabilities are, that, with the wealth concentrated within the corporate bounds of the city of Brooklyn, and with the ample means at its command, the city will always find the ordinary method of raising money by tax sufficient for its payment.

Since the decision of this case, the Legislature has shown its appreciation of the objection referred to, by removing the restriction which the law imposes upon all savings' banks, insurance and trust companies throughout the State, of making loans upon property subject to any species of incumbrance. The act passed April 21st, 1871, for the express purpose of facilitating mortgage loans upon this particular property, declares that it shall be lawful for the several savings' banks, insurance and trust companies of this State to make mortgage loans upon such portions of Prospect Park, in the city of Brooklyn, as the Brooklyn Park Commissioners are authorized to sell, notwithstanding any lien of bonds issued by said city for the purchase and improvement of said park. Provided, however, that the lands so to be mortgaged are otherwise unincumbered, and that loans so to be made shall not exceed the amounts which such institutions are now authorized by law to loan on real estate. The effect of this law, combined with the city's full warrantee of title on every sale made, cannot, the Commissioners think, be otherwise than sufficient to restore entire confidence to purchasers for investment, as well as to capitalists, in the advancement of such means as may be required for the improvement of this growing section of our city.

The Commissioners, in their last report, referred to a delay

in the widening and opening of several streets and avenues adjacent to the park, placed under their charge in cases where the land taken for the widening constituted a portion of the park. Objection was made by persons owning property along the line of the improvement liable to be assessed for a portion of the expenses, who insisted that the land taken from the park, and required to be used for the widening, should be thrown out into the said streets and avenues without compensation; that such land was, in fact, already public property, since it could only be used for park purposes; and that it was of no more value to the city as a park, than it would be if devoted to public uses as a street. The Commissioners, however, could not see the force of such an argument, and knew no reason why the city should not receive the same compensation which any owner of property was entitled to receive, whose land was required for the widening of a street or avenue. The importance of the position assumed by them will appear, when it is stated that the awards made and yet to be made to the city for various strips of land taken from Prospect Park for sundry street widenings around the park, amounts to $251,194. The Commissioners, therefore, concluded to submit the question to the final arbitrament of the Court of Appeals, and they are now pleased to be able to state that the result of their decision will place this large amount to the credit of the city, which otherwise would have been entirely lost.

The point was made in the matter of the widening of Ninth avenue, where it was held, upon the basis of the decision in the Armstrong case, that land taken from the park for the widening of streets was owned by the city in fee, to the same extent that all other park lands were held; and that, although it was held for the purposes of a public park, yet that when subsequently required for the purposes of a street, under an act of the Legislature providing for the assessment and payment of damages to be sustained by the owners of land taken for such improvement, the city was entitled to a fair compensation for the land so taken. That it could not be said, as matter of law, that the lands embraced in a park are of no more value to the city than the same lands devoted to public use as streets. And that the award of damages sustained by the city in this case, by reason of a conversion of park land into a street, hav-

ing been confirmed by the Supreme Court, was conclusive upon all parties.

The Commissioners who were appointed to lay an assessment for benefit derived from the opening of the park upon property specially benefited thereby, have made a preliminary report thereon. This report having been submitted to public examination, was freely criticised by the parties in interest, and the Assessment Commissioners proceeded to hear the proofs and allegations submitted to them, and are now engaged in reviewing their report. The aggregate amount proposed to be raised was somewhat larger than had been anticipated, and the fact that considerable sums have recently, in consequence of the decision of the court above referred to, been credited to the city on account of land taken from the park for widening streets, involves the necessity of making some abatement from the amount stated in their report. But from the conceded intelligence and integrity of the gentlemen composing that commission, no doubt is entertained that their final report will prove to be just and fair, as well to the city as to those who, in consequence of special benefit received from their proximity to the park, are reasonably expected to bear some additional share of the public burden.

The Commissioners regret to find that an effort is being made by some property owners within the proposed district of assessment, to change, if not to nullify, this just provision of law, by either evading the payment of any assessment for benefit, or by reducing it to such an extent as seriously to interfere with the arrangement made for the payment of the land at the time when the park was agreed to be established. It can hardly be considered proper at this late day to discuss the policy of the law which directed an assessment for special benefit to be laid. It is, in fact, generally conceded that a reasonable assessment ought to be made; but it should not be forgotten, by those who propose to change the present rule of assessment, that the first suggestion in the law of 1860, for raising only one twentieth of the price of the land, had reference merely to the very limited expenditure which was then supposed to be necessary for a park, and that even this arrangement of the matter was not approved of by our citizens, but was obliged to give way to the compromise act of 1861, under

which the present organization of park enterprise subsists. By this act, after considerable litigation and the adjustment of a variety of conflictory interests, it was agreed that the whole question of the amount to be contributed by the parties specially benefitted, as well as of the district of assessment within which that amount was to be raised, should be left to the judgment of five discreet commissioners to be appointed by the Supreme Court.

Upon the basis of this compromise, all park lands have been acquired by the City, and its bonds have been issued in payment thereof. It is with reference to this general policy that the park has been constructed, and that all persons have been dealing who originally owned or who subsequently purchased land in its vicinity. To disturb this compromise, especially at this late date, would be as unwise as it is unjust, and, if successful, must result, not only in a violation of good faith with the City and its taxpayers, but in giving to a few property owners all the advantages to be derived from the City's expenditure of millions of dollars, without any adequate contribution on their part.

Since the last report of the Board, the grading of the Jamaica Park Way, that great arm of the park, which is stretched out for nearly two and half miles to the eastward, over what was formerly Sackett street, has been brought to completion, and is now about to be curbed and guttered according to the plan suggested in a former report. With respect to their action in this matter, the Commissioners here deem it proper to refer to an explanation formerly made by them; that at an early day it was felt to be desirable that some plan should be adopted, both to improve the means of communication from a distance with the park, and to extend its influence in increasing the attractiveness of the City, and thereby advancing the value of its real estate. But it was feared that, if the Commissioners should adopt a plan for the purpose, and themselves apply to the Legislature for authority to carry it out, opposition growing out of competing local interests would probably defeat the project. There seemed to be no objection however to give the suggestion a practicable form, and, without recommending any particular course of action, to lay it before the public, and leave further proceedings to be determined by future developments.

To this end, all who were interested, either in the public or private aspect of the matter, were invited to examine maps and other means of more detailed information, at the Commissioner's office. All citizens whose property interests could be specially affected were thus induced to engage in an active discussion of the subject, until its advantages were thoroughly comprehended. With these initial proceedings, all active efforts on the part of the Commissioners ceased. But, the project growing in favor before the adjournment of the Legislature, then in session, individual interests had been so far combined, that a proposition was agreed to, by a majority of property holders along the line of the suggested route, that the improvement should be made at their expense, and under the direction of the Park Commissioners. The same course was pursued with reference to similar improvements on the westerly and southerly sides of the park, and has resulted in the adoption of several fine approaches, among which they are pleased to enumerate the Great Ocean part way, which bids fair to become as attractive for private investment as it is important for public purposes. The Commissioners, however, are compelled to express a regret that one branch of the system of park approaches, which was included in their original scheme, to connect the park with the Narrows and Lower Bay, by a park way to Bay Ridge and Fort Hamilton, has not been adopted.

Reference to the Engineer's report will show, in ample detail, the very satisfactory progress which has been made upon the rides and drives, as well as upon the woods and waters of our park during the last year. The principal feature of this splendid municipal improvement are now fully developed. Its entire circuit drive is finished, its broad lake filled with an ample supply of pure and wholesome water, and its extensive plantations, in all their varied and picturesque forms, are nearly complete. Each season of growth puts forth new and unexpected beauty, challenging the admiration of crowds of visitors, who come from all parts of our land to do it homage. And its financial results are quite as satisfactory as its artistic attainments. Its effects upon the value of Brooklyn property, and its attractiveness to persons of wealth seeking a place of residence, can hardly be over-estimated, and seem to be more conspicuous now than at any former period. Beyond all question

the city is fast realizing the anticipations of the Commissioners, as expressed in their earlier reports, respecting her great taxable resources and her immense local advantages.

The Engineer's report shows also the largely increased use that has been made of the parks throughout the season. The public were encouraged to make use of the green lawns and open turf spaces, without any further restraint than was necessary to protect the interests of the park. The east woods, and the neighborhood of the Pools and the Dairy Cottage, have afforded ample accommodation for picnics and family gatherings. And the sheltered seats and tables provided on the walks near the cottage and elsewhere, with the view of furnishing convenient and pleasant resting places for lunching, reading, and quiet social meetings, were much resorted to for those purposes.

Numerous croquet parties have taken advantage of the privileges thus afforded, and the fine turf of the park meadow spaces, being frequently cut and watered, was found to be well adapted to the requirements of this game. Mr. Culyer reports that, during the summer and fall, over four hundred picnics, composed of church congregations, Sunday schools, and temperance societies, visited Prospect Park. Care was taken to guard them from annoyance and intrusion, water was supplied freely, seats and tables provided, and swings put up for the use of the children, when requested. Good order prevailed, and a ready disposition was at all times shown to conform to established regulations.

Early in the month of May arrangements were made for celebrating the Sunday-school anniversary on this park. Seats were erected on the long meadow, under the shade of the chesnuts, for the accommodation of seven thousand children, and an audience of more than three thousand other persons. Platforms for the speakers and band were also put up. The weather being very fine, the ceremonies passed off with gratifying success, and nearly twelve thousand persons participated in the exercises.

During the months of July, August, September, and October, a series of ten concerts of instrumental music was given to the public, through the liberality of some of our public-spirited citizens. These concerts were well attended, and gave

great pleasure to the crowds of delighted visitors who thronged to hear.

The Commissioners are much gratified to record the fact that the city is indebted to our distinguished fellow-citizen the Hon. Demas Barnes, for the gift of a beautiful collossal bust, in bronze, of Washington Irving, the work of that eminent artist J. Wilson McDonald, Esq. Mr. Barnes' presentation letter, with a resolution of the Board accepting the gift, will be found appended to this report. This fine work of art, erected upon a granite shaft on the east drive of the park, was unveiled, with music and appropriate services, on a beautiful bright day in July last, in the presence of at least ten thousand persons. Mr. Low presided, and introduced the ceremonies with an appropriate speech. He was followed by Mr. Barnes, whose elegant presentation address was received by the audience with frequent bursts of applause. The President of the Park Commission, on behalf of the Board, accepted the bust for the city in suitable terms; and the Rev. Mr. Beecher added to the enjoyment of the delighted assemblage by the delivery of an excellent address, well adapted to the occasion. This splendid exhibition of refined taste and large public spirit reflects great credit upon the generous donor, and entitles him to the warmest thanks of every citizen of Brooklyn. His noble gift, like the monument of the Martyr President, will stand for ages as one of the sweetest charms of Prospect Park.

The Commissioners also have the pleasure of acknowledging the receipt of two pelicans from Mr. Stephen Haynes; one deer from Mr. Ambrose L. Snow, one from Mr. H. Hentz, two from Mr. S. B. Chittenden, one from Mr. John Norrit, and two from Mr. W. B. Leonard; also of three Muscovy ducks from Mr. Gerster; five hundred tulips from Mr. John Douglas; and fifty side-saddle plants from Mr. F. V. Morrison, of New Burgh. The animals are in good condition, and contribute largely to the picturesque effects which are being continually produced upon this park.

The financial statement of the receipts and expenditures of the Commission, for the year 1871, is annexed to and forms part of this report. It includes a statement of the fund raised by general tax, under the law of 1868, for the maintenance of

all the Brooklyn parks during the current year. It will be seen that the deficiency in this fund reported last year still exists; and the Commissioners regret to state that another deficiency must of necessity be reported in the coming year, for the reason that the Board of Estimate last Spring, with an ill-advised economy, as the Commissioners think, reduced the appropriation for the maintenance of 1872 to a lower amount than at any former period. The experience of the Commismissioners, in managing the city parks, has taught them that all former estimates for their maintenance have been too low, and they trust that future appropriations for this purpose will be of a more liberal character, such as will enable them to maintain the parks in a manner corresponding with their dignity and importance.

Dated January 1st, 1872.

J. S. T. STRANAHAN,
President.

J. H. PRENTICE,
Secretary.

JOHN N. TAYLOR,
Comptroller.

AN ABSTRACT OF THE FINANCIAL STATEMENT

OF THE

BROOKLYN PARK COMMISSION,

FOR THE YEAR 1871.

The total receipts on account of PROSPECT PARK during the year 1871 were:

Balance to credit of this park January 1st, 1871.....		$97,059 75
Received from the Comptroller of the city.	$500,000 00	
" " rents of houses in the park.	6,034 30	
" " sales of wood, grass, &c....	2,220 67	
" " interest on bank balances ..	2,193 51	
" " salary account.....	208 33	
" " water sold	80 74	
Balance	24,891 59	
		$535,629 14
		$632,688 89

Expenditures.

The total expenditures on this park for the same time were:

Paid salaries, Comptroller, Superintendent, architects, and engineers.....	$20,208 07	
" surveyors, draftsmen, and assistants.	21,314 03	
" laborers, mechanics, horses and carts.	468,415 26	
" materials of construction and tools, &c.....	64,788 01	
" fitting up offices, rents, insurance....	2,438 26	
" stationery, printing, and drawing materials.....	3,297 63	
" trees, plants, and shrubs.....	3,550 78	
" manure and other fertilizers	1,560 00	
" drainage pipe	7,109 00	
" patent pavements.....	13,092 60	
" water pipe and hydrants.....	337 25	
" structures erected by contract	26,578 00	
		$632,688 89

Washington Park.

The total receipts and expenditures on account of Washington Park for the same time were:

Balance, January 1st, 1871		$60,432 01
Paid surveyors and assistants	$695 42	
" laborers, horses and carts	5,558 62	
" trees, shrubs, and plants	1,004 50	
" materials of construction, tools, &c.	43 04	
" on account of inclosing wall	19,611 30	
		$26,912 88
Balance		33,519 13
		$60,432 01

Tompkins Park.

The total receipts and expenditures on account of Tompkins Park for the same time were:

Received.

From City Comptroller		$25,000 00
Paid surveyors and assistants	$577 83	
" laborers, horses and carts	8,299 70	
" contractor for grading, &c.	12,325 21	
		$21,202 74
Balance		3,797 26
		$25,000 00

JOHN N. TAYLOR,

Comptroller.

MAINTENANCE ACCOUNT.

Received.

For the maintenance of all the City Parks for 1871... $100,000 00

Expended.

For	Prospect.	Washington.	Carroll.	City.	City Hall.	Tompkins	
Roads	$10,824 25	$3 50	.....	.....	.....	.....	
Walks	1,793 41	228 05	$148 22	$141 08	$629 09	.....	
Structures.	407 79	14 45	21 80	.....	23 90	$215 00	
Plantations	21,305 67	2,508 10	468 02	2 40	161 13	.....	
Water	4,704 41	39 20	4 30	.....	.....	.....	
Drainage..	1,795 42	.....	.....	.....	.....	.....	
Ice	7,657 41	.....	.....	.....	.....	.....	
Tools	21 22	37 25	.....	.....	.....	.....	
Keepers...	36,631 28	2,895 90	951 18	1,356 28	9 96	697 53	
General...	3,828 98	7 53	11 85	3 25	10 66	11 90	
Total ...	$88,969 84	$5,734 01	$1,605 37	$1,503 01	$831 74	$924 43	$99,568 40

Balance 431 60

$100,000 00

JOHN N. TAYLOR,

Comptroller.

MR. BARNES' PRESENTATION OF THE IRVING BUST.

BROOKLYN, May 29th, 1871.

Hon. J. S. T. STRANAHAN,

President of Park Commission.

Dear Sir:—A year ago last April, I gave J. Wilson McDonald, the sculptor, an order to execute a colossal bust of Washington Irving, in bronze, to be presented to the Park Commissioners, as the nucleus of an art collection in the park. I have now the pleasure of informing you that the work is nearly completed, and awaits the approval of your Commission at the studio of the artist, No. 161 Fifth avenue, New York.

Mr. McDonald requests us to visit him on Friday next, and I shall be pleased to accompany such of your Commission as may desire to inspect the work at any hour you may name, and thereafter to join you in an appropriate location of the bust. The pedestal will accompany the bust, and your Commission will simply have to receive and set the same in place.

I am, with great respect,

Truly yours, &c.,

DEMAS BARNES.

Extract from the Minutes of the Board of 13*th June*, 1871.

Whereas, the Hon. Demas Barnes has, in a written communication to the Board, expressed a wish to erect a colossal bust in bronze, of Washington Irving, executed by J. Wilson McDonald, the artist, with a suitable pedestal, within the enclosure of Prospect Park, and to present the same to the Park Commissioners, free of expense. Therefore

Resolved, that the Board accept the same, with a cordial acknowledgment of the well known liberality of their distinguished fellow-citizen, the donor, and that the Executive Committee be empowered to make proper arrangements for its reception in the park.


DESIGN FOR
PROSPECT PARK
IN
THE CITY OF BROOKLYN.
1871.
OLMSTED VAUX & CO, LANDSCAPE ARCHITECTS.
J. Y. CULYER, CHIEF ENGINEER.
PROSPECT AVENUE
OCEAN PARKWAY
GREENWOOD AVENUE
ADAM STREET
VANDERBILT STREET
SEELY STREET
CONEY ISLAND ROAD
ELEVENTH AVENUE
MIDDLE STREET
SHERMAN STREET
BRAXTON STREET
TENTH AVENUE
SIXTEENTH STREET
SEVENTEENTH STREET
FOURTEENTH STREET
THIRTEENTH STREET
TWELFTH STREET
ELEVENTH STREET
TENTH STREET
NINTH STREET
EIGHTH STREET
SEVENTH STREET
SIXTH STREET
FIFTH STREET
FOURTH STREET
THIRD STREET
SECOND STREET
FIRST STREET
MACON STREET
MONTGOMERY STREET
CARROLL STREET
PRESIDENT STREET
UNION STREET
SACKETT STREET
DEGRAW STREET
DOUGLASS STREET
FLATBUSH AVENUE
VANDERBILT AV
PARADE GROUND
LAKE
THE LONG MEADOW
WEST WOOD DRIVE
MIDDLE WOOD DRIVE
EAST WOOD DRIVE
POOL
NETHERMEAD
LULL WATER
BREEZE HILL
CARRIAGE CONCOURSE
SHELTER
MUSIC PAVILION
REFECTORY
TERRACE
PRINCIPAL ENTRANCE
PLAZA
PLATFORM
RESERVOIR
DRIVE
BROMENADE
FRANKLIN AVENUE
CLARKSON AV.
OCEAN AVENUE
FLATBUSH ROAD
EAST NEW YORK AVENUE
GROUND RESERVED FOR PUBLIC BUILDINGS
FOR SALE
FOR SALE
JAMAICA PLANK ROAD
UNDERHILL AVENUE
BUTLER STREET
BALTIC STREET
WARREN STREET
WASHINGTON AVENUE
FRANKLIN AVENUE
MONTGOMERY ST
CROWN ST
CARROLL ST
CLASSON AVENUE
GRAND AVENUE
SCALE OF FEET
N.Y. Lith. Engr. & Print. Co. 16 & 18 Park Place

REPORT

OF THE

LANDSCAPE ARCHITECTS AND SUPERINTENDENTS.

BROOKLYN, January, 1872.

TO THE BROOKLYN PARK COMMISSIONERS.

Gentlemen:

We lay before you our customary annual report upon matters of design, construction and superintendence.

The most important fact in the record of the year is that of the greatly increased popularity of the park, and especially of the more domestic elements of the design explained in our report of last year. There has been more than double as much use of the ground as there was two years ago, and a third more than one year ago, the whole number of visits having exceeded six millions, making an average for every day, winter and summer, foul and fair weather included, of over seventeen thousand.

The greater part of this increase has been among those entering on foot, but a considerably larger number of private carriages is also observed. It is moreover noticed, that as people get to be more familiar with the park, they stay in it a longer time, on an average, at each visit.

The only noticeable modification in the study of the general plan of the park, which has been developed during the year, has grown out of a change in its boundaries near the entrance from Flatbush avenue, for the purpose of adapting them to an improvement of the neighboring street system. A reconsideration of the

park road and walk lines leading from the Willink Gate was found to be necessary in this connection, and the design, as it now stands, is shown on the accompanying revised plan.

At the commencement of the working season a change occurred in the organization of the staff of superintendence. Mr. John Bogart, who was the responsible engineer to the Board at the close of the year 1870, having resigned his position, his duties devolved on Mr. J. Y. Culyer, who was subsequently appointed by your Board its chief engineer.

In organizing the work of construction under your instructions, in 1866, it was thought desirable to secure, if possible, some advantage from the special knowledge which had been acquired in the engineering department of the Central Park during the initial stages of development of that work before the war. Of the assistant engineers who had been engaged in that department, Mr. Bogart was selected as a fitting representative of the required experience, and, at our suggestion, he gave up a professional position he was then holding under the United States Government, and took charge under Mr. Davis, then your chief engineer, of the Brooklyn Park surveys, and of the transference to the ground of the design, as finally approved.

This important service he continued to render, in connection with other duties, till the close of his official relations with the park last spring, and we desire at this time to express our sense of the special value of the aid we have received from him in the elaboration of the design during the five years that he has been connected with the work under the control of your Commission.

His coadjutor and successor, the present chief engineer, was likewise engaged from the outset on the Central Park, and also, at our suggestion, in 1866, resigned a position held in connection with its administration, to take the more responsible one to which he was appointed when the Brooklyn Park work was first organized. Except during a period of service under the War Department, Mr. Culyer has thus, for the last fifteen years, been occupied on public work of this special class; and his duties under your Commission having required him to be in constant communication with your Executive Committee, the value throughout of his ability and experience is well known to the Board.

Of the various results that have been reached in the steady progress of the work during the past year, the completion of the circuit drive supplies the additional attraction to the park of most evident value to the public, and it may therefore be desirable to

refer briefly to the natural peculiarities of the ground, and the special artistic requirements that controlled at the outset the location of this particular feature of the general scheme.

The park territory, with reference to its special adaptability for use as a city pleasure ground, is broadly divisible into four principal natural sections; first, the pastoral or long meadow district; next, the old forest ground, containing the east, west, and mid woods; third, the high lands of Breeze Hill and Lookout Hill; fourth, that which holds the open waters of the Lake. To these may be added a fifth, somewhat artificial, subdivision, comprised in the stretch on the south side of the Lake, which is laid out with wide roads and walks as the special promenade ground of the park.

To develop the variety of natural scenery above referred to in a manner that should be attractive to the visitor, and, at the same time, give an impression of artistic unity and largeness to the park design, it was necessary to secure a circuit drive that could be constructed with an easy grade throughout, on a course that should not appear to double on itself in a narrow or contracted way.

It was for this reason, and with the specific object of getting round the obstacle presented by Lookout Hill, that the appropriation of additional territory in the direction of the Coney Island Railroad station, and the changes in the line of Fifteenth street, were recommended in our original study. In consequence of the delays and embarrassments occasioned by the difficulty in obtaining the northwesterly section of the park ground, this important connecting link in the general circuit could not safely be made till last season; the necessarily heavy operations required by the improvement are, however, now well advanced, and since the drive was opened to the public, in October last, the specific intention of this part of the plan has been made evident, and the advantages arising from the somewhat costly change of boundary have, we trust, been clearly manifested.

Another important park feature has also, during the past year, assumed its final engineering shape, although it does not yet produce the intended effect on the eye of the visitor. The lake shores are completed, and between fifty and sixty acres of water surface are provided for; the water is, however, at present much below the designed level, and the bank slopes are, in consequence, more prominent in every direction than they will be when the lake fills up to

the line indicated on our working sections. The intended result is expected to be gradually arrived at by the steady operation of the pump attached to the great well, and it is hoped that the relative proportion of land and water contemplated in the arrangement of this part of the design will, in the course of a few months, be completely secured.

For the safety and accommodation of pedestrians, archways under the carriage drive have been introduced at a few prominent points in the general plan of the park. Of these the Enterdale, the Meadowport, the Nethermead, and the Eastwood Arches had been completed at the date of our last report; and a design was in preparation for the Cleftridge Span, which was intended to penetrate Breeze Hill, and thus enable visitors coming from the main entrance to reach the Concert Ground and Lake shore on foot, at an easy grade by a protected line of approach.

This archway, in accordance with our advice, was at first designed to be formed of granite and brick, and working plans and estimates were prepared accordingly. But before any contracts were made the Beton Coignet Company offered, on favorable terms, to construct the whole archway of their patented material, which had been used successfully, for some years past, on large public works abroad, and which, it was represented, would allow of a considerable increase of artistic character in the details of the design without additional cost.

In the architectural treatment of archways for park purposes, the most serious difficulty lies in the arrangement for the soffit or ceiling, the surface of which is always so large, that its elaboration in brick, stone, or wood, is only admissible in very prominent situations, on account of the cost involved. The advantages promised by the new material in this direction were obvious, and its sufficiency in other respects being maintained by General Gilmore, the president of the company, the evidence in its favor was considered by your Board sufficient to justif a trial of it on the park.

Under these circumstances, we felt that the soffit of the arch ought to be the key note of the fresh study, and, in consultation with Dr. Goodridge, the vice-president of the Beton Company, we prepared a design that received the approval of your Board, and which has since been partially executed.

The object to be reached was to reduce the number of moulds or separate castings to a minimum, because every additional mould

would involve a serious addition to the actual cost of the work. Every block used in the soffit was accordingly arranged to be of the one most convenient dimension for working purposes—thirty-six inches by eighteen inches—and the plan was so arranged that the use of three moulds, one for the vertical rib, one for the horizontal rib, and one for the panel, should be sufficient to complete the whole interior work of the arch. Each of the wooden moulds or patterns was elaborated with carved work, and the one for the panel deeply incised so as to secure additional artistic effect.

The archway is not yet completed, aud the interior work is not fully pointed, but the result is sufficient to show that the good or bad effect of the material, in any such situation, is entirely dependent on the designer; and that, if it maintains its reputation for strength and durability, it must prove a valuable addition to the decorative resources of the architect.

The grading of the Jamaica parkway, or grand approach to the park from the eastward, has been well advanced during the year, the work having been prosecuted under contracts, made by the Board, throughout its entire length. The construction of the Ocean parkway, connecting the park, by a continued system of pleasure roads and walks, with the seashore, is delayed by legal difficulties which, it is understood, must be removed by legislation. Should this be obtained during the present season, rapid progress may be made, on account of the more favorable character of the ground, and these two important undertakings advance together.

Considerable additions have been made to the plantations of the park during the year, and the satisfactory condition of the previous plantings, and the good results of the measures taken for the improvement of the old woods continue. We have a special report in preparation upon the plantations of the park, which will soon be laid before you.

Less progress than had been anticipated has been made during the year in the improvement of the pleasure ground of Fort Greene, on account of difficulties with contractors, explained in the report of the chief engineer. The value of the work previously done has been demonstrated by the large numbers of people who have resorted to the ground, in their evident enjoyment, and in the good order which has generally prevailed.

The principal work of the improvements at Tompkins square, suggested in our report of last year, and adopted by your Board, has

been completed, and the planting and finishing of the ground will be practicable early next summer.

The accompanying report of the chief engineer supplies extensive details of all the work, and exhibits very fully the method on which it has been conducted.

Respectfully,

OLMSTED, VAUX & CO.,

Landscape Architects and Superintendents.

REPORT

OF THE

ENGINEER OF THE BROOKLYN PARKS.

January 1st, 1872.

MESSRS. OLMSTED, VAUX & CO.,

Gentlemen—I submit herewith a Report of operations and progress of work under the charge of the Brooklyn Park Commissioners, for the year ending December 31st, 1871, together with the usual tabular statistics, inventories, &c., for the same period.

The season was a very favorable one for work, although the aggregate rainfall for the year was 50.67 inches, which was nearly 12 inches in excess of the average for ten years past. This large rainfall was delivered in gentle showers throughout an extended period, with the exception of two very heavy storms occurring respectively on Saturday, July 15th, and Thursday, August 24th,* neither of which occasioned any considerable damage or interfered with the progress of the work.

An absence of rain for several weeks in the early spring threatened serious results to vegetation, but this drouth was afterwards followed by rain at such frequent intervals as to superinduce and maintain a very luxuriant growth throughout the season, and also to render the work of removing and transplanting large quantities of material a comparatively simple matter.

* This storm lasted 2 hours and 11 minutes, with a fall of 2.55 inches, and on Thursday, August 24th, 47 hours and 17 minutes, with a fall of 4.32 inches.

DETAILS OF CONSTRUCTION.

In working the force this year, one main object has been to complete unfinished work in various parts of the Park, as far as possible.

WORK IN VICINITY OF THE PLAZA.

The unfinished portion of the Plaza at its junction with Union street, has been graded and paved with Belgian pavement; the curb has been set from this point to the junction of 9th Avenue and the Plaza, and the pavement laid from the latter point down to the head of the west mound.

The Plaza street has been put in temporary repair for the better accommodation of travel, and a part of the permanent planting put in.

The picket fence at the entrance has been replaced by an iron rail of galvanized pipe $1\frac{3}{4}$ inches in diameter, with locust posts. This fence is so set as to provide a sidewalk of 30 feet in width. An iron cover has been placed on the overflow chamber of the fountain.

ARCHWAYS AND BRIDGES.

CLEFT-RIDGE SPAN.

This archway is constructed of Beton Coignet (a concrete of superior manufacture), under a contract with the N. Y. and L. I. Coignet Stone Company, Dr. J. C. Goodridge, jun., Superintendent.

The work was commenced in the month of September, and is now nearly finished. Its location is at the easterly end of Breeze Hill, and the archway carries the main walk from the Plaza, under the drive, to the pedestrian concourse. Its span is 20 feet, and length 66 feet. The exposed surfaces are made up of block courses of this material, formed in moulds, and much of this work is of an ornamental character. The foundation and backing are monolithic.

The process of manufacturing this material is, briefly, as follows: Certain proportions of lime, cement, and sand with sufficient quantity of water to form a hydrate of lime, are thoroughly incorporated by machinery, the material on which the coloring depends being introduced at the same time. To secure excellence in fabrication, it is found necessary to regulate in a systematic manner the water required. Great stress is therefore laid upon the fact that, the quantity of water must not exceed what is barely sufficient "to convert the 'matrix' into a stiff viscous paste;" each grain of sand, gravel, or particles of broken stone must also be sufficiently covered with

the paste, or mortar, to ensure a close and compact bond with those which surround it.

In this condition the material is put, layer after layer, into moulds of the necessary size and design, and thoroughly rammed at each stage of the process. The sides of the mould are then removed and the material allowed to harden. After a few days it may be removed for use, if handled carefully, but experience indicates that the Beton reaches its best condition in proportion to the time it is permitted to remain, under favorable circumstances, in an equable atmosphere, so that it may attain a certain state of "case hardening," by absorption of carbonic acid. It is claimed by the contractors to be impervious to water, and this may be the result, for all practical purposes, in cases where it has become thoroughly indurated, but it can be so only in proportion as the induration proceeds from time and favorable exposure.

From tests made on the Park, it was found that a block of this material, several months old, absorbed 50 per cent more water than Ohio sandstone of the same dimensions, under similar conditions. A block of Beton of more recent manufacture would absorb an increased volume of water, and the reverse would be the case with a block of greater age and longer exposure.

The material is certainly susceptible of strength and hardness, as claimed, and if its components are of proper excellence of their kinds, and adjusted with discretion, there can be little doubt of its ability to maintain the general reputation claimed for it as to durability. The effect of the action of the atmosphere, in our variable climate, upon the surfaces of ornamental work, is yet to be experienced.

A rustic bridge, of locust, with stone abutments, has been built over an arm of the lake, near its south easterly corner. It is 83 feet long, and 5 feet above the summer level of the lake, and carries a 16 foot walk, running southerly from the carriage concourse.

A small rustic bridge, in cedar, has been built, carrying the Westdale walk over the brook, which serves as an outlet to the upper pool. A temporary bridge, 140 feet long and 20 feet wide, has been built to accommodate travel during the progress of construction of Cleft ridge span.

BUILDINGS AND STRUCTURES.

The concert grove house was let by contract, under the direction of the Executive Committee of the Board, to Messrs. Osborn & Fish, of Brooklyn, in May last, and is now nearly completed. This

building consists of a principal story and attic; it has a frontage of 76 feet, and a depth of 43 feet. The main room is designed to be used for the sale of refreshments; the rear portion is devoted to kitchens, retiring room for ladies and gentlemen, cloak rooms, &c. There are in the attic, rooms for the keeper and his family.

The dairy cottage was completed and fitted up for use during the year. The ladies' parlor was carpeted and provided with suitable furniture, and the public room with tables, chairs, &c., for use as a refectory. The house was opened to the public on June 24th, since which time it has been in constant use till the close of the year. For the information of the public, the following circular was freely distributed to visitors on the park, and in the cars, and also advertised in the daily papers:

"Brooklyn, June 15th, 1871.

"The Park Commissioners invite the attention of invalids, weakly persons, convalescents, and mothers of young children, to the elevated ground east of the long meadow, near the dairy cottage, and known as Cottage Hill. It is within ten minutes walk from the Flatbush, Ninth Avenue, and Coney Island cars; is high, dry, and airy; at the greatest distance from any point in the Park from all disturbing and contaminating conditions, and being surrounded by woods, the air is less harsh than in other elevated situations. There is a large space of turf near by, on which children are allowed to play, and as no carriage road passes near, and the bridle way in the rear of the cottage is fenced off, young children are not liable to stray into danger from horses and carriages. A number of sheltered seats will be found on the Balcon walk, leading out of the Eastdale, near the cottage; small tables are attached to most of them, and and they are convenient for sewing, reading, studying, and the care of children. There is a dressing room, with a woman in attendance, at the cottage, where fresh water, clean towels, and other conveniences can be used free of charge; wholesome milk, cold or warm, tea, and other simple refreshments can also be obtained at moderate fixed charges. All doctors agree that for convalescents and delicate persons, moderate exercise, with intervals of agreeable rest, in the open air, is usually the best medicine, and that the most important means of securing health and vigor for young children, is to keep them often, for several hours at a time, out of doors in a pure atmosphere."

PIC-NICS.

"Suitable ground for the use of intended pic-nic parties will be

preserved, if timely application is made at the keeper's station. Tables and seats are provided without charge. At the purveyor's counter, in the public room of the dairy cottage, hoops, balls and mallets for croquet parties; buckets, baskets, and table furniture will be loaned at a small charge on deposit of their value. Families or parties bringing their own tea can obtain pots and boiling water at the cottage. Cold beef, ham, tongue, sandwiches, and other provisions will be supplied by the purveyor when ordered in advance. The purveyor will also furnish at all times.

	To be taken out for Pic-nics. Price.	In the cottage, per plate or portion, Price.
Bread	10 cts. per loaf.	
Bread, thin slices, buttered	25 cts. "	
Bread and butter		10 cts.
Butter	50 cts. per lb.	
Cheese	40 cts. "	5 cts.
Milk	14 cts. per quart	5 cts.
" warm from the cow		10 cts.
Ice cream	50 cts. per quart	15 cts.
Custard, per cup		10 cts.
Ice	1 ct. per lb.	
Tea or coffee	12 cts. per quart pot.	
" "	6 cts. " pint "	
" "		5 cts.
Lump sugar	20 cts. per lb.	
Sardines	25 cts. per box	10 cts.
Pickled oysters	$2 per hundred	20 cts.

"Biscuits, crackers, cracknells, maccaroons, ladies' fingers, almonds, raisins, figs, prunes, etc., at usual grocers' and confectioners' charges."

In the month of June, seven cows were purchased by the Commission, and pastured upon the meadows during the summer. The milk was supplied to the purveyor at the dairy cottage. In this way 11,000 quarts of milk were disposed of by the glass, or in larger quantities, to pic-nic parties, or family gatherings, for which purpose the grounds in the vicinity of the dairy cottage were a favorite resort during the summer. At the date of the last report the stable near the dairy cottage was in process of construction by contract. It has since been completed and opened for public use. The upper floor provides a room where baskets, clothing, etc., may be temporarily deposited by pic-nic parties. There is also on this floor a retiring

room for gentlemen. The lower floor is arranged for the accommodation of live stock. The farm-yard is on a level with this floor, and in it a shed has been built and water introduced for the use of the cattle during stormy days.

Between the dairy cottage and the farm-yard, a horse-shelter 91 feet long, and 12 feet wide, has been built for the convenience of equestrians who may wish to alight and obtain refreshment at the cottage. A small shelter has been constructed directly in front of the dairy cottage, for the purpose of accommodating pic-nic parties, and those who may wish refreshments, served out of doors. For the same purpose three additional shelters in rustic work have been built on walks immediately adjacent.

These shelters overlook the Ambergill water-course, and command fine views ever the park in different directions. Several large rustic seats have been built in the same vicinity. Water was also freely introduced into this neighbourhood in the summer.

A shelter has been erected between the Eastdale walk and the east drive, opposite the playground. It is about 31 feet long and 10 wide, and opens towards the meadow. Two temporary shelters have been built by contract on each side of the main entrance at the plaza, and two more are now in process of construction at the southwesterly entrance, at the intersection of the Coney Island road and Franklin avenue. These are designed as convenient waiting places for visitors desiring to take the cars. Drinking fountains are now in course of construction for these shelters.

A heptagonal summer house of sassafras and cedar has been commenced, at the southerly end of the playground, near the east drive. It is within a few hundred feet of the site of the old Valley Grove hotel, and commands a fine view of the east wood, through the Battle Pass. The foundation for two rustic shelters on the shore of the lake have been laid, and work on the superstructures is now advancing.

A temporary music pavilion, 20 feet by 30, was erected in the Lull-wood. Ample seating accommodation was also provided under the shade of the trees. Provision was also made to permit, on concert days, the use of the turf between the drive and ride, in the vicinity of the music stand, as a carriage concourse, from which the music could be conveniently heard.

During the year six iron urinals were imported from Glasgow. Three of them have been set up, and are now in use by the public, two at the plaza entrance and one near the third street entrance. These were supplied with water to keep them clean, and connections with the sewer were also made.

DRIVES.

The completion of the circuit drive of the park being one of the most desirable results to be attained within the year, a considerable force was early in the season set at work upon the unfinished portion known as the south and west lake drive, nearly one mile in length. The work proceeded vigorously, and the drive was finished and opened to the public on Saturday, October 25th, thus completing the system of park drives, with the exception of a small piece on the west side.

The total length of the circuit drive, as now constructed, is three and a half miles.

The south and west lake drives are built entirely of park gravel, with the exception of a length of 600 feet, which is McAdamized. The metal for this piece of road was obtained from stone which had accumulated during the excavation of the lake. The method of forming the gravel drive was as follows: at a level of one foot from grade care was taken to use none but good sharp gravel for the filling; the larger stones were raked forward, and the drive partially rolled; the top course was composed of finer gravel, which had been passed over screens with one inch meshes, and which contained sufficient loam to pack well. The surface was then moistened and thoroughly rolled.

The gravel found upon the park and in its vicinity is a drift formation, and is not homogeneous in texture. It is largely made up of inferior material, not well constituted to withstand the action of the weather, so that while it may be used to good advantage in road construction where special regard is paid to thorough draining, it lacks the durability of the North river gravel, which has been extensively used on the Brooklyn and Central Parks. It has the advantage, however, of forming a bond under the roller with much less rolling than the other gravel, and when not subjected to heavy traffic it maintains a firm surface, is neither excessively dusty in dry weather nor muddy after ordinary storms, and is readily repaired.

CONCOURSES.

The carriage concourse, four and one-tenth acres in extent, was sub-graded last year. In the spring the surface was finished in the same manner as the south and west lake drives, and the concourse is now complete, with the exception of the proposed carriage shelter on its summit.

A portion of the water wall of the pedestrian concourse has been built, and is ready to receive its coping. The concrete for the main

terrace walls has been laid, the irregular ashlar dressed, and a large amount of the stone for the superstructure is on hand, and partly cut, so that this work can be actively pushed forward in the spring.

RIDES.

The Nethermead ride has been brought to grade, and entirely completed. Branch rides have been built from the east ride to the dairy and dairy cottage stable. A series of trails has been constructed on the hill between the east ride and its east branch. The ride skirting the carriage concourse and the south and west shores of the lake is finished as far as the westerly end of Look-out hill. There remains but a small portion to be constructed in order to connect it with the Nethermead ride.

WALKS.

The Westdale walk has been completed from the edge of the picnic woods to the head of the pool system where it crosses the brook connecting the first and second pools by means of a rustic bridge, and becomes a continuation of a branch of the Eastdale walk, which skirts the southerly side of the two large pools, and has been completed during the year.

A branch of the Westdale walk has been commenced, running from the largest pool along the foot of the westerly slope of Cemetery hill.

The walks in the immediate vicinity of the dairy cottage have been brought to grade, and laid with tar concrete pavement. Work in this vicinity is now entirely complete.

The Ambergill walk has been brought to grade by a covering of gravel four inches thick.

The Eastdale walk has been finished from the Eastdale bridge to the Nethermead arches. Two walks, eight feet wide, have been built connecting this last-named walk with road-steps on the drive crossing the Nethermead arches.

The walks leading from the pedestrian concourse, and skirting the south and west shores of the lake, have been finished with tar concrete as far as the summit of the south lake drive, and subgraded as far as the westerly end of Look-out hill.

The walks on the Peninsula have been surfaced with tar concrete as far as the proposed terrace building.

TAR CONCRETE.

Samples of nearly all the extensively known combinations of "tar concrete," in which tar, asphalt, sand gravel, or broken stone,

etc., are used, have been laid in the park. Their character and quality varies according to the judgment and experience used in the manipulation of the ingredients by the contractors, and the manner and thoroughness of laying them. Pavements have been laid by the Fiske, Scrimshaw, Scharf, Evans, Long Island, and other processes. The first of these did not do well on the park, disintegration of the surface rapidly ensuing, in consequence, it is believed, from the use of pine tar as the concreting material. Some of the walks laid by the Fiske process were in bad condition for use, and were re-surfaced during the year with Scrimshaw.

The Scrimshaw has been most extensively used on the park; it seems to have been more carefully manufactured and laid than any other, and, as a consequence, has given better results.

WATER SURFACES.

The Ambergill has been entirely completed, and the slopes of the two large pools formed.

A small pool has been made at the north-easterly end of the hill, near the cemetery, at the point where it was formerly intersected by Ninth street. This pool has been entirely completed, and, in connection with it, a fall ten feet high has been built, over which water is conducted for the supply of the lower pools and the Ambergill. In the small basin at the foot of these falls, two hundred brook trout, purchased in the summer, were placed. A constant supply of running water has preserved and kept them in a healthy condition. They are growing rapidly, and can be observed by visitors as they pass over the rustic bridge that crosses the outlet of this pool.

The system of pools, falls, and watercourses has been in use during the larger part of the season, and a circulation maintained through the whole line of the watercourse from the pools, and over the falls to the main lake.

The large fountain at the Plaza, which is supplied with water from the city distribution, has been in use from two to seven in the afternoon during the fine weather of the spring, summer, and fall season.

In the early part of the year the work of excavating and puddling the lake was pressed to completion, and water was let into the newly-finished portion (nearly thirty acres in area) on the 20th of August.

The material obtained in its excavation was used to make the fill required on its southerly and westerly shores, for drives, plantation, &c. The puddling material for the slopes and bottom of the Lake was obtained from the Deer Paddock pit, the sides of which were subsequently shaped so as to form a pool, and filled with water. The stone accumulated in the excavation of the Lake was used for covering the slopes, paving bridle-road gutters, providing a supply for future use, and furnishing MacAdam stone for drives.

The following figures are given as of interest in this connection:

The area of the Lake below the Binnen Bridge is $54\frac{1}{10}$ acres. The distance around the Lake line is $3\frac{8}{10}$ miles.

There have been removed in the excavation 700,914 cubic yards of material, and there have been used for puddling 43,640 cubic yards of clay, 16,660 cubic yards of loam, and 8,915 cubic yards of stone.

The system of water surfaces in the park is now entirely complete, and their combined area is $61\frac{3}{10}$ acres.

DRAINAGE.

The necessary basins have been constructed, and pipes laid for the drainage of all the drives, rides, walks, and plantings that have been brought to a finish within the year. During the summer a 36-inch brick sewer was built in the Long Meadow, running from the larger pool towards Fifteenth street. This sewer is circular in section, has but a slight fall, and drains an area of nearly 64 acres. It is 660 feet in length.

WELL AND WATER DISTRIBUTION.

A cover of wood, iron, and glass has been constructed over the opening of the well; and a platform, with railing, has been carried from the foot of the stone steps to the platform of the engine.

The 6-inch wrought iron and cement water pipe has been continued along the southerly shore of the Lake, and a 12-inch pipe along the westerly shore. A 6-inch branch pipe has been laid to the circle at the intersection of Franklin avenue and Coney Island road, which is intended to supply water to the Coney Island parkway. A connection with the park water system has been made, and pipe laid for supplying the Parade Ground with water.

The 12-inch cast iron water pipe leading from the well to the head of the smallest pool has been extended and completed. It has

been in daily use during the summer for supplying water to the circuit line and falls.

A 3-inch galvanized water pipe has been laid for the supply of the Dairy, and adjacent building and neighborhood.

Provision has been made for drinking fountains in this vicinity, as well as in the picnic woods and near the main entrance. During the larger part of the year the supply for watering roads, irrigation, and drinking purposes has been obtained from the well and reservoir on the park.

PLANTINGS.

All the spaces to be occupied by plantation on the South Lake shore having been finished, they were partially planted before the close of the season. On the West Lake borders the uncompleted planting is so far advanced that it can be readily finished in the spring.

The larger part of the Peninsula has been seeded and planted, and the work of finishing the plantings of the Deer Paddock is well advanced.

The ground near the Dairy, which was unfinished at the date of the last report, is now entirely completed. The ground immediately adjacent to the pools has been finished, as has also the hill between this point and the Central drive. On the

LONG MEADOW

the finished ground has been extended to the old line of Eleventh street. On this part of the meadow the original surface was very low, and was intersected by a series of embankments made in connection with the city street system, which had been partially developed.

A considerable amount of material was necessary to fill up this low ground to the height requisite for thorough drainage; the earth needed for this purpose was excavated at points where its removal would not interfere with the desirable landscape features of the adjacent surfaces, and in the disposal of this material so as to obliterate the formal lines above referred to.

The work was done with special regard to economical adjustment. The filling between the City Line and Sixteenth street has been made. The old buildings of the Coney Island Railroad Com-

pany, which were on the new line of the street, have been taken down, and the excavation made from the circle at Sixteenth street, along the new and widened line of the street as far as Eleventh avenue, where the old grade of the street has been preserved. A new line of water pipe has been laid in the street by the Water Board, and the old line of pipe lowered to correspond with the new grade.

CONEY ISLAND ROAD.

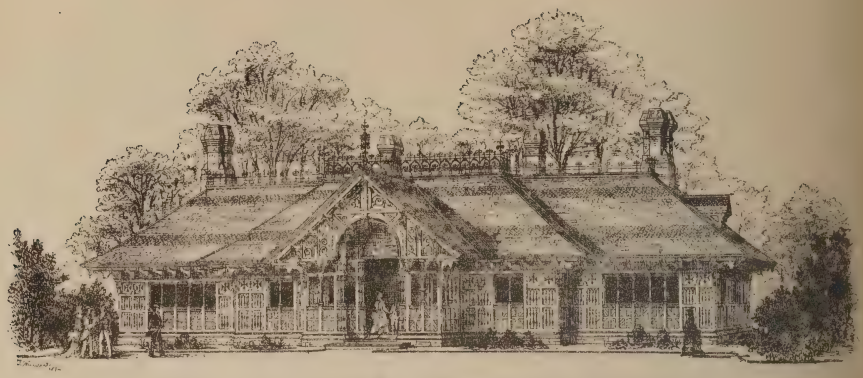
Considerable filling for the widening of the Coney Island road, on the park side, has been done; a part of the south-westerly circle of the park has been finished, and the rest is partially subgraded.

FRANKLIN AVENUE.

The planting of trees unfinished at the close of last season was completed in the spring, and the avenue dedicated to public use.

WASHINGTON PARK.

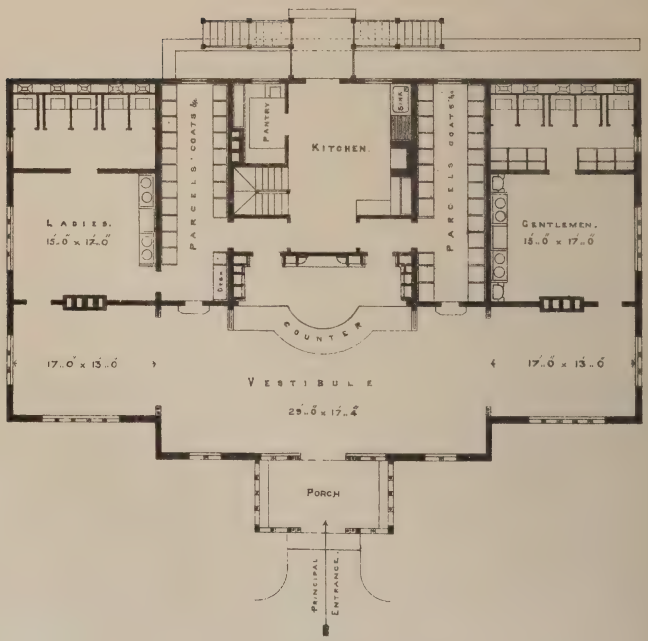
Early in the year, work was resumed on the enclosing wall of this park, but it did not proceed satisfactorily, owing to unwillingness on the part of the contractor to comply with the requirements of the plans and specifications embodied in his contract with the Commissioners, and operations were accordingly suspended. The prices at which the work was taken by Mr. Swift, the contractor, being too low to warrant the expectation of a thorough performance of his contract, without excessive trouble and annoyance in superintendence, the contract was annulled, and the work was subsequently re-let to George E. Clark, of Brooklyn. Operations were resumed in the month of July, and continued until the intervention of frost. The wall along Cumberland street is nearly complete, with the exception of the entrance opposite Willoughby avenue, and a portion of the coping between this entrance and De Kalb avenue. The wall along Myrtle avenue is essentially complete between Portland avenue and the entrance at the corner of Cumberland street. The wall around the Gant is as near completion as is possible until the granite piers and entrance shall be built. As fast as the construction of the wall was carried forward, a line of tile was laid behind it, and a backing of rubble stone, about two feet thick, carried up nearly to the top of the wall, the object being to drain the bank thoroughly, and so protect the masonry from possible injury by



· PRINCIPAL · VIEW · OF ·

· THE · CONCERT · GROVE · HOUSE ·

OLMSTED. VAUX. & CO. LANDSCAPE. ARCHITECTS



· PLAN · OF · PRINCIPAL · FLOOR ·

frost. Along Cumberland street the surplus material on the sidewalk, between the wall and the curb, has been removed. Between Myrtle and Willoughby avenues a hedge has been planted behind the wall, and the ground immediately in its rear shaped and finished. This work, together with the finishing of surfaces in the rear of the wall, and laying of an 8-inch sewer pipe for the drainage of the Gant, comprise all that has been done at Washington Park this year.

During fine weather the greens on this park have been in frequent use by the children of the neighborhood, for their various games; and they have also been a popular resort for croquet parties, special care having been taken to maintain the turf in good condition for this purpose.

The shelter on the summit of the hill was a favorite resort in the summer, during the heat of the day and in the evenings, and at times the assemblage was so large as to be unable to find seating accommodation.

TOMPKINS SQUARE.

The original surface of Tompkins square was, to a considerable extent, below the grade of surrounding streets, and the plan adopted by the Commission, therefore, required a large amount of earth-filling for the purpose of overcoming this defect. At the date of the last report, the soil had been partially stripped and piled, and a portion of the filling put in, by contract with Mr. Francis Swift. The work was resumed in the spring, and the grading completed, soil replaced, and surfaces shaped for planting. The walks were made of gravel found in the neighborhood. They are one foot in depth, the coarser gravel being laid in the bottom, upon which a layer of finer quality is placed; sufficient loam is mixed with the latter to accelerate the bonding, and the whole is then watered and thoroughly rolled.

A thorough system of drainage has been introduced, and so arranged as to connect with the city sewers in the adjoining streets. The necessary silt and inlet basins have been built. Lines of tin-lined lead pipe have been laid for the supply of two drinking fountains, one at either end of the square. A line of sewer pipe has been put in to take the waste water from the large fountain contemplated in the design, whenever the same shall be constructed.

The fence on either side of the four entrances has been re-set, in accordance with the plan, and the entrances themselves have been arranged, so as to be closed by a chain running through the posts.

The surfaces have been enriched with fertilizing material, and have also been seeded, so that, with the exception of the planting, the improvement of Tompkins square is essentially complete.

CARROLL PARK AND CITY PARK.

Beyond the necessary maintenance work of the year, there has been no work or expenditure incurred on these parks. The Martyr's Tomb and adjoining fence, in the City Park, were put in good repair in the early part of the year, and remain so at this date.

NINTH AVENUE.

Ninth avenue has been partially graded, curbed, and paved for about half a block from the Plaza line, with the view to make its junction with the entrance more and attractive and convenient than it has heretofore been.

The track of the Cross Town railroad, which, at the commencement of the last year, had been laid down through the Plaza to Ninth avenue, has been extended along the avenue, connected with the Coney Island railroad at Ninth street, and continued beyond the latter road, through the circle at the corner of Ninth avenue and Fifteenth street.

Trees have been planted on the Park sidewalk from the Plaza to Third street.

FIFTEENTH STREET.

During the season work has been prosecuted on the widening of this street; the extent of this widening, authorized by law, being 25 feet on the park side, and 15 feet on the property line opposite. In the early part of the year, contracts were severally entered into by the Board, with Barney E. Gray and Charles Foster, of Brooklyn, for the removal of the surplus material on the line of these widenings; the price agreed on being respectively 33 cents and 38 cents per cubic yard. Some work was done under these agreements, but was not prosecuted with energy, and both contractors finally withdrew. The work was afterwards done by the park force, more satisfactorily as to the manner and time of doing it, at a cost slightly within the prices allowed to Mr. Foster. Experience in this and other cases seeming to show that we are prepared to compete successfully on work of this class, for which a fair price has been allowed to contractors.

JAMAICA PARK WAY AND EAST SIDE.

The contracts for grading the Jamaica Park way on the line of Sackett street, from Washington avenue, easterly, to the city line, were awarded in August, 1870. Work was immediately commenced on two of the sections, but active operations along the whole line were not begun until October, from which time the work progressed satisfactorily on most of the sections. The last section was finished August 10th, 1871.

Following is a tabular statement of the commencement and ending of the work on the various sections, with the length of each section, name of contractor, etc:

JAMAICA PARK-WAY GRADING.

(Washington Avenue to City Line).

No. of Section.	Name of Contractor.	Time of Commencing.	Time of Ending.	No. of lineal feet in Section.
1	Francis Swift.....	October 3d, 1870	June 12, 1871	2,089 $\frac{6}{10}$
2	"	" "	June 17, "	1,550
3	Dillon & Smith..	August, "	Feby. 1, "	1,937
4	Geo. B. Elkins...	October, "	June 3, "	1,910
5	Dillon & Smith..	August, "	Feb. 11, "	1,170
6	Peter Riley	October, "	Aug. 10, "	561 $\frac{4}{10}$
7	Jonathan Taylor..	August, "	June 16, "	2,088 $\frac{5}{10}$

The top-soil was removed from the whole line of the Park-way and piled on the adjacent parallel streets, for use in the final finishing of the walks and tree spaces. The stones found in excavation were piled on the line of the Park-way, to be broken for MacAdam and paving stone. A gang from the Park force was employed for a few months breaking building stone and Belgian blocks for Park uses. In July, a contract was awarded to P. Farrell for making Belgian blocks from stone, suitable for the purpose, found on the Park-way. The work was commenced immediately, and is now progressing in a satisfactory manner.

From the section of the Park-way between Washington avenue and the Plaza, the top-soil has been removed by the Park force. Grading was commenced at the Plaza in January, by two contracters, but proceeded slowly, and has been completely suspended since the middle of September. In June, a contract to grade a portion of the Park-way (commencing at Washington avenue) and to fill the low ground within the limits of the east side-lands, and contiguous to the Park-way, was awarded to Daniel O'Brien. He commenced work immediately, and is carrying on operations with dispatch.

STATEMENT OF CONSTRUCTION TO JANUARY 1ST, 1872.

EAST SIDE LANDS.

Area brought to grade	$2\frac{41}{100}$ acres.

JAMAICA PARK-WAY.

Distance graded 210 ft. wide, Washington avenue to City line	$2\frac{14}{100}$ miles.
Distance graded 150 ft. wide to plaza	$\frac{20}{100}$ "
Total distance graded	$2\frac{34}{100}$ "
Stone piled for future use	14,161 cu. yds.
Building stone broken	1,206 "
Belgian blocks "	380,600 "

MATERIALS MOVED.

Earth exca. Washington av. to City line	472,213 cu. yds.
" " " " plaza	59,324 "
Soil " " " "	14,677 "
" " " " City line	23,230 "
	569,444 "

TABULAR STATISTICS OF CONSTRUCTION TO JANUARY 1st, '72.

DRIVES.

Drives finished 60 feet wide	1,504	lin. ft.
" " 52 "	437	"
" " 50 "	4,004	"
" " 46 "	5,613	"
" " 40 "	13,427	"
" " 30 "	1,500	"
" " 27 "	1,610	"
" " 25 "	400	"
" " 23 "	1,675	"
" " 50 " (Franklin av.)	3,546	"
Total length of drives finished	33,716	"
	or $6\frac{38}{100}$	miles.

Drives in progress 50 feet wide	134	cu. ft.
" " 40 "	2,110	"
	2,244	"
	or $\frac{42}{100}$	miles.

CONCOURSES.

Finished concourses for carriages—plaza	283,527	sup. ft.
" " " " park	360,537	"
" " " pedestrians—plaza	26,742	"
" " " " park	59,300	"
" " Washington Park	78,832	"
" " Tompkins' Sq	13,612	"
" " parade ground	21,600	"
	844,150	"
	or $19\frac{38}{100}$	acres.

Concourses in progress for carriages—park	33,000	sup. ft.
" " " pedestrians—park	153,200	"
" " " Washington Park	93,960	"
" " " pedestrians, parade g'd	4,000	"
Total	284,160	"
	or $6\frac{52}{100}$	acres.

RIDES.

Rides finished	30	feet wide	.....	3,625	lin. ft.
" "	20	"	.....	6,820	"
" "	15	"	.....	2,625	"
" "	14	"	.....	500	"
" "	12	"	.....	726	"
" "	8	"	.....	600	"
				14,896	"
				or $2\frac{82}{100}$	miles.
Rides in progress	20	feet wide	.....	1,900	lin. ft.
" "	15	"	.....	600	"
				2,500	"
				or $\frac{47}{100}$	miles.

WALKS.

Walks finished	20	feet wide	.....	1,700	lin. ft.
" "	16	"	.....	18,449	"
" "	14	"	.....	515	"
" "	12	"	.....	14,780	"
" "	10	"	.....	2,760	"
" "	8	"	.....	2,433	"
" "	6	"	.....	240	"
" "	5	"	.....	57	"
" "	4	"	.....	175	"
" "	3	"	.....	24	"
" "	$52\frac{1}{2}$	"	(Washington Park.)..	496	"
" "	16	"	.....	775	"
" "	14	"	.....	4,300	"
" "	12	"	.....	1,857	"
" "	10	"	.....	622	"
" "	8	"	.....	505	"
" "	60	"	(Tompkins' Sq.).....	328	"
" "	25	"	.....	2,503	"
" "	18	"	(Carroll Park.).....	2,462	"
" "	8	"	(Carroll Park.).....	2,275	"
				57,256	"
				or $10\frac{84}{100}$	miles.

Finished walk at Prospect Park	$7\frac{79}{100}$	miles.
" " Washington Park	$1\frac{62}{100}$	"
" " Tompkins' sq	1	mile.
" " Carroll Park	$\frac{43}{100}$	miles.
	$10\frac{84}{100}$	"

Walks in progress 30 feet wide	7,516	lin. ft.
" " 25 "	2,175	"
" " 20 "	10,473	"
" " 16 "	1,120	"
" " 14 "	1,057	"
" " 12 "	1,725	"
" " 10 "	662	"
" " 8 "	802	"
" " 30 " (Washington Park.)	1,128	"
" " 14 " "	164	"
	26,822	"
	or $5\frac{8}{100}$	miles.

DRAINAGE.

36 inch brick sewer built	660	lin. ft.
18 " vitrified pipe laid	2,107	"
15 " " "	9,374	"
12 " " "	11,073	"
10 " " "	4,593	"
8 " " "	12,513	"
7 " " "	305	"
6 " " "	24,985	"
5 " " "	1,694	"
4 " " "	3,517	"
$2\frac{1}{2}$ " " "	675	"
10 " " " (Washington Park.)	315	"
8 " " "	1,020	"
6 " " "	2,066	"
5 " " "	1,234	"
4 " " "	2,729	"
10 " " " (Tompkins' sq.)	380	"
8 " " "	100	"
7 " " "	424	"
6 " " " (Carroll Park.)	401	"
5 " " "	707	"
6 " " " (Carroll Park.)	97	"
4 " " "	310	"
6 " cement pipe laid	142	"
	81,421	"
	or $15\frac{42}{100}$	miles.

Tile pipe laid 3 inch	20,556	lin. ft.
" " $2\frac{1}{2}$ "	25	"
" " 2 "	28,400	"
" " $1\frac{1}{2}$ "	7,637	"
" " 2 " (Washington Park.)	2,034	"
" " $1\frac{1}{2}$ " " "	108	"
	58,760	"
	or $11\frac{13}{100}$ miles.	

WATER DISTRIBUTION.

Wrought iron and cement pipe 16 inch	3,023	lin. ft.
" " " 12 "	4,510	"
" " " 6 "	13,006	"
" " " 4 "	3,829	"
	24,368	"
	or $4\frac{61}{100}$ miles.	

Cast iron pipe 20 inch	347	lin. ft.
" " 16 "	29	"
" " 12 "	2,983	"
" " 8 "	191	"
" " 6 "	78	"
" " 4 "	8	"
" " 3 "	53	"
" " 2[1] "	10	"
Galvanized " 3 "	437	"
" " 2 "	70	"
" " $1\frac{1}{2}$ "	450	"
" " $1\frac{1}{4}$ "	1,132	"
" " 1 "	1,856	"
" " $\frac{1}{2}$ "	406	"
Total	8,050	"
	or $1\frac{52}{100}$ miles.	

Lead and tin pipe $\frac{3}{4}$ inch	1,006	lin. ft.
" " $\frac{1}{2}$ " (Washington Park.)	294	"
" " $\frac{3}{8}$ "	1,064	"
" " $\frac{1}{2}$ " (Tompkins' Sq.)	271	"
	2,635	"
	or $\frac{5}{10}$ miles.	

Check valve	1
Blow-offs and branches	85
Stop-cocks	50
Air-cocks	12
Hydrants	41
Reducers	7
Metres	2
Stop-cocks, Washington Park	11
" Tompkins' Square	2

Gas pipe laid, 4 inch	700 lin. ft.
" " "	88 "
	788 "
	or $\frac{15}{100}$ miles.

Iron fence set, Washington Park	703 lin. ft.

AREA OF OPERATIONS UP TO JANUARY 1ST, 1872.

Area worked over up to January 1st, 1872	431 acres.
" " " Washington Park	30 "
Surface finished, meadows and slopes	$190\frac{1}{2}$ "
" " woodland	$58\frac{6}{10}$ "
" " water surfaces	$61\frac{3}{10}$ "
" " roads and walks	$67\frac{7}{10}$ "
Total	$378\frac{1}{10}$ "

Surface seeded	$231\frac{3}{10}$ acres.
" finished, Washington Park	23 "
" " Tompkins' Sq	$8\frac{84}{100}$ "
" " Carroll Park	$2\frac{38}{100}$ "

MASONRY.

Amount of brick masonry	3,919 cu. yds.
" " Washington Park	76 "
" " Tompkins' Sq	30 "
" stone masonry	7,427 "
" " Washington Park	1,735 "
" Beton Coignet	697 "
" concrete	4,065 "
" " Washington Park	523 "

Amount of steps set	6,065	lin. ft.
" " Washington Park	646	"
" coping set, Washington Park	793	"
" curb set	83,212	"
" " Washington Park	677	"
Belgian pavement laid	306,237	sup. ft.
Cobble " "	78,180	"
Brick " "	27,114	"
Brick gutter	21,148	"
Telford "	73,391	"
Cobble "	31,499	"
Flag stone gutter	10,939	"
Flagging laid	1,051	"
Tar concrete pavement laid	543,067	"
" " " Washington Park	210,051	"

AMOUNT OF STONE BROKEN.

McAdam stone, by breaker	17,388	cu. yds.
Telford and building stone, by hand	10,663	"
" " " Washington Park	2,569	"
Spall stone, by hand	12,956	"

MATERIAL MOVED.

		During 1871.	Total to Jan. 1, 1872
For grading and shaping drives, rides, walks, meadows & slopes,	cu. yds.	106,652	567,932
For lakes, pools and streams	"	163,417	789,900
For plaza	"	..	172,355
For sewers, drains and water distribution	"	15,252	105,933
Soil	"	48,346	504,319
Peat	"	3,596	75,798
Clay	"	24,748	62,159
Manures and composts	"	2,940	45,157
Stone	"	5,065	92,194
Gravel and sand	"	17,317	116,280
Miscellaneous	"	773	19,219
Total cubic yards		388,106	2,551,246
Material moved at Washington Park		6,630	98,879
" " Tompkins' Sq		41,681	41,681
Grand total		436,417	2,691,806

FORCES.

During the most active period of operations the aggregate force of teams, carts, and laborers amounted to between twelve and thirteen hundred, although the daily average of the year was less than nine hundred. We have had no difficulty, during the working season, in maintaining the force to such numbers as desired, numerous applications being made throughout the year for work on the park by a very fair class of men. Our foremen were all old employees, thoroughly experienced in the work required of them, and discharged their duties with efficiency.

Statement showing the average number of force employed for the months and year noted.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1866.....	Active operations commenced on the park in the latter part of January, 1866.					300	335	450	550	620	700	725
1867.....	700	630	410	800	1000	1150	1200	1525	1750	1825	1800	1100
1868.....	944	812	508	1215	1047	1189	1095	1090	1116	1118	1167	912
1869.....	740	698	746	946	959	988	991	1006	975	946	552	204
1870.....	139	134	134	164	594	721	661	730	806	839	853	845
1871.....	738	645	679	1002	1144	1148	1105	1060	790	759	673	422

Within the year 1871 there were 278 days during which the full force was employed, and 35 days when work was interrupted by the weather.

FORCE ORGANIZATION.

The force for the year 1871 was as follows:

1 General foreman.
8 Barrow gangs (1 at Fort Greene), average 45 men each.
4 Cart gangs (1 at Tompkins Square), average 25 men, 44 carts each.
1 Team gang, average 20 men, 37 teams.
1 Stone-breaking gang, 8 men.
1 Miscellaneous gang, 13 men.

Of this force, 27 men, 4 teams, and 8 sprinkling carts were required for the work of maintenance, cleaning and repairing roads, basins, and waterways; to which was added a force of gardeners in the spring and summer, for the care of shrubbery, trimming, and cutting the turf.

Statement of mechanical force employed for the year.

1 Foreman of stone-cutters and stone-masons.
7 Stone-cutters.
1 Foreman of brick-masons.
2 Brick-masons.
1 Foreman of carpenters.
14 Carpenters.
1 Foreman of blacksmiths.
3 Blacksmiths.
1 Foreman of rustic work.
3 Carpenters in rustic work.

For planting and the care of trees, shrubbery, and turf, including the force for construction and maintenance for this department, the following were employed:

1 Foreman.
1 Assistant foreman.
7 Master gardeners.
14 Skilled workmen.
124 Laborers.

TOTAL FORCE.

During the year there have been employed:

1,431 Laborers.
298 Carts.
93 Teams.
119 Miscellaneous.

DISCIPLINE.

The following is an abstract of the record of promotions, suspensions, and discharges during the year:

APPOINTMENTS, PROMOTIONS, AND RESIGNATIONS.

Number of Foremen appointed	4
" Assistant Foremen appointed	4
" Assistants promoted to Foremen	2
Resignation of Foremen	1

SUSPENSIONS.

Number of Foremen suspended for breach of discipline	8
" Laborers	208
" Horses and carts	36
" Teams	18

DISCHARGES.

Number of Foremen discharged for gross violation of rules	1
" Laborers discharged	288
" Horses and carts	42
" Teams	15

ACCIDENTS.

One case of sunstroke occurred, without serious result. Several employees were injured by falling earth, and two by falling off their wagons. None of the men were fatally injured. The body of a man was found on the Plaza, near the fountain, early in Autumn last. It is supposed that he dropped dead from heart disease during the night, and such was the verdict of the coroner's jury.

During the skating season five accidents occurred by falls on the ice; none of them of a dangerous nature. Sixty-seven accidents to persons in carriages upon the drives in the park have been noted during the year. In two instances the injured parties have died; in several others the injuries have been of a serious nature, but have not proved fatal. Three horses have been killed—one instantly, by being struck by the pole of a carriage; and two others, in consequence of the injury received, were killed by permit from the city authorities. These accidents occur from careless or reckless driving, generally from inexperience and a disregard of the well-established road regulation: "Keep to the right as the law directs." Fast driving is less frequent than in former years. Four cases oc-

curred during the year, for which the parties were arrested by our keepers. Exemplary punishment in each case being imposed by the judge before whom the offenders were cited.

Regarding the means to be used to stop, if possible, this class of offenders, and to reduce to a corresponding degree the danger to which the general public is liable, either the penalties should be increased, or more certain arrest of offenders provided for. One or two mounted patrols would accomplish this.

KEEPER FORCE, &c.

The details of this organization were as follows:

1 Head keeper.
3 Wardens.
13 Rangers.
27 Post keepers.

These have been distributed as follows, in the several parks and squares under the control of the Commissioners:

PROSPECT PARK.

3 Wardens.
12 Rangers.
20 Post keepers.

WASHINGTON PARK.

1 Ranger.
3 Post keepers.

CARROLL PARK.

2 Post keepers.

CITY PARK.

2 Post keepers.

TOMPKINS SQUARE.

1 Post keeper.

The general management of the force is under the control of Mr. O. C. Bullard, Park Inspector. During the year, one warden, four rangers, and three post keepers have resigned. Two wardens were suspended; and one ranger and six post keepers have been suspended for definite periods for breach of discipline. Two wardens and one post keeper have been discharged for breach of discipline. One station officer was promoted to head keeper. Three rangers to wardens. Eight post keepers to rangers.

ARRESTS.

For fast driving were	4
" disorderly conduct	2
Interfering with keepers	2

Four lost children were restored to their parents.

There are seven horses the property of the Commissioners, five of them are employed upon water-carts and for trucking in the summer season, and for cleaning snow from the drives and walks, and for planing the ice in winter. Two are used by officers of the park in the discharge of their duties.

THE ENGINEER CORPS.

The organization of the corps was as follows:

3 Assistant engineers.
2 Draughtsmen.
1 Leveler.
1 Accountant.
6 Rodmen.
12 Chainmen, and
9 Axemen.

The force was supplemented when the necessities of the service demanded it, by details of intelligent laborers from the gangs.

Mr. Thomas Stratford, Mr. J. B. Duneklee, and Mr. T. P. Kinsley, assistant engineers, have had active charge of the details of work in their respective divisions. They have been efficient and conscientious in the discharge of their duties, and by their intelligence and good management of work, have faithfully served the interests of the Commission and the city.

Mr. John Maguire, as general foreman, has had active supervision of the field force. He has been held responsible to a large degree for its efficiency; and his constant attention to, and faithful discharge of his duties, merit the approval of the Commission.

The organization of the several officers remain the same as heretofore. Mr. H. Spear, chief clerk of the disbursing office, being entitled to credit for the intelligent and energetic supervision of the details of his office.

The number of visitors to the park during the past year has largely increased. In 1870, between three and four million persons visited the park. In 1871, between six and seven millions.

SKATING.

The Pond house was put up in December, and all necessary preparations for skating completed. The season, commencing December 26th, 1870, and ending February 23d, 1871, consisted of 42 skating days, during which period it is estimated that nearly 100,000 persons visited the pond. The whole pond, nearly 50 acres in area, was thrown open to the public, December 20th, and there have been to this date (January 1st) 11 days skating.

Ample accommodations for the comfort and convenience of the public have been provided by the Commission, the aim being to make the skating facilities equal to those of any public or private pond in the country. The ice has been maintained in the best condition possible, under existing circumstances of weather and temperature. The keepers have been discreet and attentive, and although nearly three quarters of a million of people have visited the pond since skating was inaugurated, no serious disturbance or accident has occurred, nor has it been necessary to arrest any person.

THE PARADE GROUND.

During the year two brigade parades occurred on the respective dates given below.

May 22d, Fifth Brigade, N. G., S. N. Y., Brig.-Gen'l T. S. Dakin, commanding.

June 8th, Eleventh Brigade, N. G., S. N. Y., Brig.-Gen'l Meserole, commanding.

Preceding each of these parades the grass was cut and rolled and put in condition for use by the military. On the days of the parades water was freely supplied to the soldiers, and the public accommodated with seats, &c., on the slope fronting the shelter. Early in the fall (October 14) an exhibition drill was given at the Parade ground by the Battery of Light Artillery stationed at Fort Hamilton, under the direction of Generals Vodges and Captain and Brevet Brig.General Wm. Graham, commanding. The exhibition was repeated on Saturday, November 4th, on each occasion attracting a large number of visitors and giving much satisfaction. The parade ground was also used for base ball and La Crosse games, by numerous clubs, during the season.

The whole number of visitors for the year is 6,168,339, an increase of 2,324,359 over the last year's record. Driving and riding are proportionately increasing with the advance of the Park towards

completion. Number of vehicles entering the Park, 1,488,188, which is 517,702 more than last report. Included in the foregoing were 53,487 sleighs, as follows: 26,825 in January, 22,364 in February, 4,298 in December. Of riders, 92,968 are reported against 74,484 during the previous year, an increase of 18,484.

The largest number of visitors on any one day was 78,299, on October 14th. 1,602,806 persons have visited the Park on Sundays.

TABLE

Showing the number of Visitors at Prospect Park during the years 1868, 1869, 1870, 1871.

Month.	Vehicles.				Equestrians.				Pedestrians.				Total Visitors.			
	1868.	1869.	1870.	1871.	1868.	1869.	1870.	1871.	1868.	1869.	1870.	1871.	1868.	1869.	1870.	1871.
January	11,440	36,719	57,936	46,827	1,301	4,031	4,755	3,931	62,012	73,500	35,000	86,764	94,443	187,688	213,563	231,176
February	16,476	37,888	37,385	39,854	510	4,960	2,942	2,322	42,504	81,761	17,806	53,615	90,982	150,385	132,903	175,499
March	16,085	43,740	39,402	58,648	3,304	6,380	4,329	6,209	27,281	32,820	17,255	67,876	75,933	170,420	139,790	250,029
April	19,089	53,430	69,599	125,739	5,287	4,671	7,675	9,766	25,942	45,125	47,115	121,931	88,502	210,086	263,587	508,914
May	38,871	75,636	93,713	135,812	7,623	11,242	8,975	10,767	69,478	65,049	99,350	150,529	194,457	303,199	389,464	568,732
June	65,485	82,620	102,647	144,050	8,625	7,884	8,172	9,311	102,544	87,441	103,157	134,795	308,988	343,185	419,272	576,256
July	52,877	68,226	100,638	145,472	5,214	5,133	4,490	8,980	98,967	102,203	127,960	220,061	266,821	312,014	435,364	665,457
August	51,133	80,339	87,703	172,598	6,369	4,270	4,407	8,693	117,425	91,315	116,898	263,010	277,193	336,602	384,414	789,497
September	37,349	70,717	106,183	186,294	4,863	5,072	7,138	9,046	60,322	74,667	97,100	242,968	177,242	291,890	422,787	810,896
October	49,684	80,417	127,442	188,369	8,329	7,163	7,898	10,164	72,325	98,305	84,284	193,193	229,942	346,719	474,208	768,464
November	44,909	50,073	90,025	145,200	10,113	5,847	7 306	8,732	44,027	29,091	48,952	58,807	188,247	185,157	326,333	503,139
December	18,200	34,435	57,813	79,325	3,180	3,101	5,397	5,047	86,056	14,788	63,479	77,258	144,042	121,194	242,295	320,280
Total	421,598	714,240	970,486	1,468,188	64,918	69,754	73,484	92,968	808,883	796,065	858,356	1,670,807	2,136,792	2,958,539	3,843,980	6,168,369

MISCELLANEOUS.

The annual inventory of supplies and material accompanies this report.

During the year, 597 two-horse loads of manure were purchased.

The details of planting work, together with the character and condition of material used and on hand, prepared by Mr. O. C. Bullard, park inspector in charge of the department, are as follows. The following statements show the amount of planting stock purchased during the year. The stock now on hand in the nursaries, and the number of trees, shrubs, &c., set in permanent plantations during the current year.

STATEMENT SHOWING THE NUMBER OF TREES, SHRUBS, ETC., PURCHASED DURING THE YEAR ENDING DECEMBER 31ST, 1871.

Deciduous Trees.	Deciduous Shrubs.	Evergreens.	Herbaceous Plants.	Bedding Plants.	Flower Bulbs.	Total.
1,461	948	3,791	200	3,244	11,300	20,944

STOCK IN NURSERY, DECEMBER 31ST, 1871.

Deciduous Trees.	Deciduous Shrubs.	Evergreens.	Ferns.	Vines and Creepers.	Herbaceous Plants.	Total.
17,110	29,255	26,649	500	6,490	2,330	82,334

NUMBER OF TREES, SHRUBS, ETC., PLANTED OUT ON PROSPECT PARK DURING THE YEAR ENDING DECEMBER 31ST, 1871.

Deciduous Trees.	Deciduous Shrubs.	Ever-greens.	Vines and Creepers.	Ferns.	Herbaceous Plants.	Bedding Plants.	Flower Bulbs.	Total.
5,529	22,160	5,672	8,449	13,950	3,013	3,895	11,650	74,318

STATEMENT OF PLANTING ON THE SMALL PARKS DURING THE YEAR ENDING DECEMBER 31ST, 1871.

Washington Park.

Evergreens.	Deciduous Shrubs.	Herbaceous and Bedding Plants.	Bulbs.	Total.
1,130	4	545	25	1,704

Carroll Park.

Evergreens.	Deciduous Shrubs.	Total.
206	39	245

City Hall Park.

Evergreen	Deciduous Shrubs.	Herbaceous Plants.	Total.
16	18	52	86

Aggregate, 2,035.

In the earlier planting upon the park, some of the young stock was massed more closely than was intended for permanent growth, partly to give more immediate effect, and partly for shelter. The surplus plants have thriven quite as well as they would have done in nursery rows, while the temporary objects have been attained. During the past season we have drawn considerably upon these older plantations, thinning out tree and shrubs as required. This work has been done successfully in midsummer, as well as in the usual planting seasons.

The following statement shows the number of trees and shrubs so used:—

Deciduous trees	567
" shrubs	2,194
Evergreens	720
Total	3,481

These numbers are not included in the foregoing tables.

The efficiency of the tree-moving machines used on the park, and the correctness of our system of transplanting large trees, seem fairly established by the experience of the last four years.

The earlier planted trees are growing vigorously, and many hardly show signs of having been moved. During the year, 323 trees have been moved by truck or stone boat. In the early purchases of planting stock for the park were included several lots of seedlings obtained at small cost; these have been cared for in the nurseries, and are now becoming valuable plants.

The yearly statements of nursery stock have embraced this class only as the plants have attained such size and form as to fairly entitle them to classification. The shrubbery vines and herbaceous plants have been largely increased each season by propagation from cuttings, layers or seed, and many young trees of native varieties have been gathered into the nurseries from woods and wilds for future use. Eight valuable trees and six shrubs were presented to the park by Wm. R. Robinson, Flatbush.

The older breadths of turf, particularly that of the upper end of the long meadow, have been greatly improved by regular use of the lawn mowers. Sufficient hay has been made on the park during the season to abundantly supply the stock.

Respectfully submitted,

JOHN Y. CULYER,
Engineer.

CHAPTER 861.

An Act to lay out and improve a public highway or avenue from Prospect Park, in the city of Brooklyn, toward Coney Island, in the county of Kings.

Passed May 11, 1869; three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. The Brooklyn Park Commissioners are hereby authorized and directed to lay out a public highway or avenue, not more than two hundred and ten feet wide, exclusive of the courtyards hereinafter provided for; commencing on the circle at the southwestern angle of Prospect Park, in the city of Brooklyn, and running thence westerly not exceeding two thousand feet, in the discretion of the said Commissioners, in the general direction of Franklin avenue, in the town of Flatbush, extending westerly; thence again southerly by such route as the said Commissioners shall consider most direct and eligible, through the towns of Flatbush, New Utrecht and Gravesend, at least six hundred and fifty feet west of the Coney Island plank road, to the road leading from Flatbush to New Utrecht, adjoining the lands of the Prospect Park Fair Grounds Association; and, to that end, they and their agents are authorized to enter upon any lands which may be required for the purpose, and cause a proper survey and map of the said avenue, as well as of the district of assessment therefor to be made. (*As amended by chap.* 726 *of the Laws of* 1872.)

Sec. 2. No buildings or other erections, except porches, piazzas, fences, fountains and statuary, shall remain or be at any time placed upon the said avenue within thirty feet from the outside line thereof; which space on each side of the said avenue, and in addition thereto, shall be used for courtyards only, and may be planted with trees and shrubbery, and otherwise ornamented, at the discretion of the respective owners or occupants thereof; but such use and ornamentation shall be under the direction of the said Park Commissioners. (*As amended by chap.* 726 *of the Laws of* 1872.)

Sec. 3. The said Commissioners are hereby also directed to open, grade and otherwise improve the said avenue, and in order to determine the amount to be paid to the owners of the lands and tenements required to be taken for the purposes of this act, and for the improvement thereof, the said Commissioners shall first fix a district of assessment, within which the property to be benefited shall be assessed to defray the expenses of such taking, as well as of the im-

provement thereof. Notice of the time and place of fixing the said district, and of hearing the parties interested therein, shall be published for ten days successively in at least two daily newspapers printed and published in the county of Kings.

Sec. 4. After fixing the said district of assessment, the said Commissioners shall apply to the Supreme Court, at a special term to be held in the second judicial district upon a similar notice, for the appointment of three Commissioners, who shall be freeholders and residents of the said county, to estimate the value of the lands and premises required to be taken for said avenue, and the damages to be sustained by any person interested therein, as well by the taking of the land as by the creation of the restriction or easement thereon, specified in the second section of this act, together with the expenses of said opening, and of the improvement thereof; and also to apportion and assess the same, both for taking and improving, in such manner as they shall deem just and equitable, upon the property to be benefited within the district of assessment so to be fixed by the said Park Commissioners, and the said court, at special term, shall thereupon proceed to make such appointment. In case of the death or refusal to act, or other disability of the Commissioners so to be appointed, or either of them, at any time before the several objects of their appointment shall have been accomplished, the said court, at special term, may fill the vacancy.

Sec. 5. The Commissioners so to be appointed by the Court, after having been duly sworn faithfully to perform the duties hereby devolved upon them, shall proceed to make the estimates and assessments referred to in the last preceding section of this act, in such and so many separate reports as may from time to time be required, each of said reports shall at all times before confirmation be subject to review and correction, and ten days' notice of the time and place of hearing objections thereto, and of reviewing and correcting the same, shall be published in the newspapers above referred to. After hearing such objections and making the corrections, if any shall be delivered to the said Park Commissioners.

Sec. 6. Upon receiving the said reports, or either of them, the said Park Commissioners shall give ten days' notice in the said newspapers that application will be made to the said Court at a special term, at a time and place to be therein designated, to have the same confirmed. Appeals may be taken from said reports, or any of them, by giving written notice to the attorney of the said Commissioners at least six days before the time fixed for the application to confirm the same, with a specification of the nature of the objection; and the Court shall have power to confirm, amend or refer back the said reports, or either of them, as it may deem proper, and to make any further order in the premises, until the final confirmation thereof.

Sec. 7. After the reports of estimate and assessment for taking and opening the said avenue shall have been confirmed, they shall, together with the maps hereinbefore referred to, be filed in the office of the clerk of the county of Kings, and the said Park Commissioners shall be thereupon authorized to improve the said avenue according to a

plan to be devised or adopted by them, and for that purpose they may cause the same to be graded, paved, curbed, and guttered, and shade trees planted thereon, and may lay out and construct such carriage ways, sidewalks, and areas, as they may deem expedient, and such improvements may be made in sections, and from time to time, if they shall so elect. The said Park Commissioners may, in their discretion, purchase or lease one or more gravel pits, for the purpose of its improvement and subsequent maintenance, and pay for the same out of any fund in their hands applicable to the construction of Prospect Park. All expenses incident to such improvements, or either or any of them, after having been duly certified by the said Park Commissioners to the said Commissioners of Estimate and Assessment, shall be by them apportioned and assessed upon the property in their judgment benefited thereby, within the district of assessment so to be fixed by the said Park Commissioners, and their reports thereon shall be subject to objection and appeal, and to confirmation, in the same manner as their said former assessment reports. (*As amended by chap.* 726 *of the Laws of* 1872.)

Sec. 8. The said Park Commissioners may contract in writing for the making of all or any of the said improvements, after inviting proposals for doing the work, and furnishing the materials, by publication for one week in said two daily newspapers, filing a copy of each of said contracts in the office of the treasurer of the county of Kings, within ten days after the making of the same. And they may from time to time, as the work progresses, but not oftener than once a month, issue to the contractors certificates of the amount of work and materials done and furnished under such contracts. The said treasurer is hereby authorized and directed to pay seventy-five per cent. of such amount to said contractors or their assigns; and upon the final completion of their said contracts, and upon filing a certificate thereof in the office of the said treasurer, he shall pay to the said contractors, or their assigns, the balance of the several amounts due under their contracts. The said treasurer shall also pay to the surveyor, commissioners, counsel, and other persons to be employed upon the said work, and upon the laying of the said improvement assessments, such amount for services and necessary disbursements as shall be specified in the assessment reports after they shall have been duly confirmed by the court. For the purpose of furnishing the money required to make such payments, the county of Kings is authorized, and the proper officers thereof are hereby directed to issue certificates of indebtedness to the necessary amount, not exceeding three hundred thousand dollars, bearing interest at seven per cent. per annum, payable on or before the expiration of ten years from the date thereof, interest thereon to be paid semi-annually, and to sell the same for not less than the par value thereof. The Board of Supervisors of the county of Kings shall, annually, make provision by tax for the payment of interest to accrue on such certificate, and levy the same on the several parcels of property assessed as part of the general tax; and in the year preceding the maturity of such certificate, the amount of any assessment remaining

unpaid, with the interest and default, if any, accrued thereon, shall form part of, and be levied and assessed upon the property chargeable with said assessment, as part of the general tax upon said lands for the general expenses of the said county. And in case there shall be separate interests, divided or undivided, arising from a transfer of the assessed property, or any part thereof, at or at any time previous to the making of said levy, or a sale therefor, and the same shall be made to appear to the satisfaction of the said Park Commissioners, they may apportion the amount assessed thereon between the owners of the respective parts thereof, and all provisions of law applicable to the redemption of lands from sales for taxes, shall apply to the several interests and amounts so apportioned. (*As amended by chap.* 726 *of the Laws of* 1872.)

Sec. 9. All assessments made and confirmed in pursuance of this act shall be liens upon the lands and premises upon which they shall have been laid, and such lands and premises shall be subject to be sold for the assessments referred to in the fifth and sixth sections of this act, if such assessments are not paid within ninety days after the confirmation thereof. The present existing provisions of law applicable to sales for taxes and assessments in the city of Brooklyn, to redemptions and leases therefor, and to the respective rights of the parties interested therein, including the rate of interest to be paid by the parties in default, shall apply to all assessments to be laid under this act, whenever they are not inconsistent therewith. And when any duties are by said laws imposed upon the Common Council of said city, they shall devolve upon the said Park Commissioners, and where imposed upon subordinate officers of the city, they shall be performed by persons to be specially appointed by the said Park Commissioners. (*As amended by chap.* 726 *of Laws of* 1872.)

Sec. 10. The said Park Commissioners may appoint one or more collectors of all assessments to be laid under this act, who shall severally give bonds for the faithful performance of their duties, and for the prompt payment of all the moneys to be collected by them. The collector of any assessment shall be entitled to receive a compensation of one per cent. on all moneys paid to him within two weeks after he shall have published notice in said newspapers twice a week for four weeks of the time and place where he will attend to receive payment. After the expiration of six weeks from the first publication of the said notice, the collector shall be entitled to five per cent. on all moneys thereafter to be collected by him, and in either case his compensation shall be paid by the party assessed, over and above his assessment, and as part thereof, and the lien of the assessment shall extend to such compensation. Upon the final collection of any assessment to be made under this act, it shall be paid over by the said Park Commissioners to the several persons entitled to receive the same.

Sec. 11. After the said avenue shall have been opened, the said avenue, together with the courtyards fronting thereon shall be under the exclusive charge and management of the said Park Commissioners, and they shall make and enforce rules and regulations for the proper use thereof. And after the said avenue shall have been im-

proved, as hereinbefore directed, its subsequent maintenance shall be a charge upon the city of Brooklyn, and such amounts as the said Park Commissioners shall, from time to time, by resolution, determine to be necessary for the purpose, shall be annually raised by the joint Board of Common Council and Supervisors of the city of Brooklyn, and collected in the taxes of the then current year, and paid over to the said Park Commissioners. (*As amended by chap.* 726 *of the Laws of* 1872.)

Sec. 12. The said Commissioners of Estimate and Assessment shall be severally entitled to receive three dollars a day for each and every day necessarily employed in the discharge of their duties, and their compensation, with room hire, stationery, and other necessary expenses, together with the compensation of the surveyor, counsel, and other persons to be necessarily employed under the foregoing provisions of this act (and who are hereby directed to be employed by the said Park Commissioners) shall be included in the general expenses to be incurred herein.

Sec. 13. This act shall take effect immediately.

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DESIGN FOR - THE PAVILION - TO BE ERECTED IN - THE CONCERT GROVE -

OLMSTED VAUX & CO. LANDSCAPE ARCHITECTS

THIRTEENTH ANNUAL REPORT

OF THE

BROOKLYN PARK COMMISSIONERS.

JANUARY, 1873.

COMMISSIONERS.

JAMES S. T. STRANAHAN,
JOHN H. PRENTICE,
EDWARDS W. FISKE,
WILLIAM MARSHALL,
ABIEL A. LOW,
SEYMOUR L. HUSTED,
ABRAHAM B. BAYLIS,
STEPHEN HAYNES,
ISAAC VAN ANDEN,
SAMUEL S. POWELL, *Ex-off.*

PRESIDENT.

JAMES S. T. STRANAHAN.

SECRETARY.

JOHN H. PRENTICE.

COMPTROLLER AND COUNSEL.

JOHN N. TAYLOR.

LANDSCAPE ARCHITECTS AND SUPERINTENDENTS.

OLMSTED, VAUX & CO.

CHIEF ENGINEER.

JOHN Y. CULYER.

CLERK.

FRANCIS G. QUEVEDO.

STANDING COMMITTEES OF THE BOARD.

EXECUTIVE COMMITTEE.

JOHN H. PRENTICE,
SEYMOUR L. HUSTED,
STEPHEN HAYNES,
EDWARDS W. FISKE.

FINANCE COMMITTEE.

ABRAHAM B. BAYLIS,
SAMUEL S. POWELL,
ABIEL A. LOW,
WILLIAM MARSHALL.

AUDITING COMMITTEE.

ISAAC VAN ANDEN,
JOHN H. PRENTICE.

THIRTEENTH ANNUAL REPORT

OF THE

BROOKLYN PARK COMMISSIONERS,

FOR THE YEAR 1872.

TO THE HONORABLE THE MAYOR AND COMMON COUNCIL OF THE CITY OF BROOKLYN:

The Brooklyn Park Commissioners respectfully present a report of the progress made by them during the year 1872, upon the various operations under their charge, together with a statement of their receipts and expenditures for the same period.

It will be seen from the reports of their Superintendents and Engineer, which are herewith submitted, that the operations of the Commissioners have been particularly directed to the extension of the long meadow towards the western angle of Prospect Park, and to the grading, draining and planting of the district which lies between it and the 9th avenue. But little remains to be done upon this section of the park which may not be finished in the course of another season. The deer paddock and the lake within it, constituting an important feature in the plan of this park, have been completed, and the small stock of deer which were presented by the gentlemen named in our former report, may now be turned out into the inclosure.

The Commissioners have also the pleasure to state, that the Cleft-ridge Span, constructed with the Beton Coignet material, is now complete, and thus far justifies the expectations formed of its utility and economy. The adjoining district,

including the Concert Grove, has also been finished and planted, and the architectural structures upon the pedestrian concourse, which form part of the same, are in an advanced state of progress.

It will be remembered that water was let into the lake during the latter part of last year. In consequence of the inferior quality of the clay which the Commissioners were obliged to make use of in puddling the lake bottom, a large soakage has occurred, which keeps the surface of the water somewhat below the desired level. But, through the operation of silting from the natural wash of the surrounding surface, the soakage constantly lessens, and no doubt is entertained of the ultimate success of this beautiful feature of Prospect Park.

A boat service has been organized upon this lake, under a contract made with Mr. E. A. O'Brien, which bids fair to be not only remunerative to the city, but of great utility to the public. The boats in use are propelled by sails or by oars, and form a pleasurable as well as healthful mode of recreation to all those who are disposed to embark in them. While the frequent regattas of the miniature yachts owned by the several clubs which have been organized for the purpose of sailing them are a never-failing source of amusement to visitors on the park.

The Dairy cottage has proved a decided success, and its recreative and sanitary advantages are evidently appreciated by the multitude of visitors who daily throng its quiet, shady retreats. Its rental, with the sales of milk and grass connected therewith, have already realized a considerable sum of money, and with the rents, which, during the coming season will probably be received from the Concert Grove house and the carriage service about to be organized, are fast becoming a source of revenue to the Commission, and will aid, to some extent, in supplying the too scanty provision which the law now makes for the maintenance of the parks.

The Commissioners are much gratified to find, from the continually increasing use of Prospect Park, that our citizens, pedestrian as well as equestrian, are beginning to understand its true value, and they believe that with the growth of its

trees and shrubbery, and the additional accommodations for recreation and amusement—which are yet to be placed upon it—they will not only appreciate its advantages more thoroughly than ever, but will make better use of them, and hold them in still higher estimation for the future.

The board of estimates, who are charged with the duty of limiting the annual expenditures of the city, restricted the improvement of Washington Park last year to $25,000, striking out an appropriation of $45,000 which had been recommended by the Park Commissioners. The amount allowed was scarcely more than sufficient to complete the inclosing wall on the north and east sides of this park, with a portion of the base-work of the martyrs' tomb. Some prominent portions of the ground, consequently, remain in an unfinished and somewhat unattractive condition. A plan for the tomb has been adopted by the Commissioners, and a general view of the accepted design accompanies this report. A contract for a portion of this work has been made, and its execution has progressed to such an extent as to render it certain that the remains may be conveyed to their final resting place early in the coming season.

The Commissioners here take leave to say, and they make the remark not only with reference to the improvement of Washington Park, but also to that of Prospect Park, that in their judgment a prompt expenditure of the money required to complete the parks in all their important features, would be true economy for the city, justified as well by the speedy termination of an unavoidably expensive organization for construction, as by the increased value to our citizens of their real estate. And these considerations are independent of the greater indirect influence, which the completed work must have upon the taxable value of property, and the consequent additional resources of the city.

Since the presentation of the last report, Tompkins Park has been completed in its essential parts, and is now in use by the public. But the inclosing fence and some of its other details are necessarily of a temporary character, owing to the limited expenditure authorized for its construction.

No work of construction has been done during the year upon any of the other small parks, but they have all been

kept in good condition and repair. The much needed improvement of the City Park is still delayed, for the want of a suitable appropriation, but will be taken in hand as soon as funds shall be provided for the purpose.

The parade ground continues admirably to serve the purposes for which it was intended, and affords ample accommodation for military drills and parades, as well as for the numerous cricket and ball players who frequent it.

Next to the construction and care of the parks, the works of most importance to the city with which the Park Commissioners have been intrusted by the Legislature, are the Eastern Parkway, with the special street system of which it is the center, and the Ocean Parkway leading from Prospect Park towards the Coney Island beach. During the past year, the heavy work of grading the Eastern Parkway has been completed, and its surface constructions of paving, macadamizing and planting with trees are now well advanced. The grading of Douglas and Degraw streets is also in progress, and their pavement may be undertaken in the spring as soon as their deep fills shall have sufficiently settled.

The plans of the Ocean Parkway have been matured in detail, and the Commissioners are now prepared to make contracts for its construction; and hope, in the course of another season, to open the drive as far as the Fair Grounds.

By the act of the Legislature directing the Commissioners to sell certain portions of park land lying east of Flatbush avenue, they were charged with the duty in making preparation for the sale, to lay out streets and avenues across the land, and to grade and pave the same, so as to adapt it to immediate public use.

In the prosecution of this work, it was deemed necessary by the Board of Public Works of the city, to enlarge the limits of the ground necessary to be held by them, for the security of the Prospect Hill reservoir, and to lay water-pipes connected therewith, in courses not before contemplated. The Commissioners were consequently obliged to adopt a modification of the plan of these streets which had been originally designed by them, in order to meet the requirements of that board. The advantages of the original plan, however,

DESIGN FOR STREET LAMPS ON THE PLAZA.

OLMSTED, VAUX & CO. LANDSCAPE ARCHITECTS.

are in no respect diminished by the new arrangement, and the Commissioners will have no difficulty in complying with the request of the board.

The Eastern Parkway, so far as it runs through this property, has already been brought to grade on the revised plan, and the water main crossing it successfully lowered to its proper position. The low grounds on this eastern section have also been filled in, and the whole property carefully surveyed. The land to be disposed of is now being mapped out and otherwise prepared for the sale which the Commissioners have been directed to make, and which they hope to be able to make before the termination of another year.

Notwithstanding the former impediment to the sale of this land, which consisted in the supposed inability of the city to convey a valid title thereto, but which has been successfully removed by the judgment of the Court of Appeals, as stated in the last report of the Park Commissioners, the charges to which it will be subjected, by the assessment for benefit, yet to be made by the special commission engaged in the work, remain so uncertain in amount, that after a consultation with experienced dealers in real estate, the Commissioners have deemed it unadvisable, to offer any of it for sale before the assessment, and the apportionment thereof on each particular lot, shall have been finally ascertained and settled.

With respect to this assessment, the Commissioners regret to say, that the Legislature at its last session, limited the amount which it had previously authorized to be raised, so as not to exceed fifty per cent. of the awards made for land originally taken for the park, with expenses, requiring also a deduction to be made, of the amounts heretofore awarded to the city, upon the widening of certain streets and avenues adjacent to the park, for lands taken therefrom, together with the cost of the land lying east of Flatbush avenue. The result of this new adjustment must be to reduce the total amount of the assessment, to a sum which cannot exceed a million and a half of dollars. The Assessment Commissioners are still engaged in this work, but expect to make their final report thereon, and to present the same to the court for confirmation early in the coming season.

The financial statement of the receipts and expenditures of the Commissioners for the year 1872, for maintenance as well as for construction, is annexed to and forms part of this report.

Dated January 1st, 1873.

J. S. T. STRANAHAN,
President.

JOHN H. PRENTICE,
Secretary.

JOHN N. TAYLOR,
Comptroller.

AN ABSTRACT OF THE FINANCIAL STATEMENT

OF THE

BROOKLYN PARK COMMISSION,

FOR THE YEAR 1872.

Receipts.

The total receipts on account of PROSPECT PARK, during the year 1872, were:

Received from the Comptroller of the city	$500,000 00
" " rents of houses in the park	5,588 50
" " sales of wood, grass, &c.	518 33
" " interest on bank balances	34 07
" " park pound	1,128 57
" " sales of milk	735 00
	$508,004 47

Expenditures.

The total expenditures for the same time, were:

Balance, January 1st, 1872		$24,891 59
Paid salaries comptroller, superintendent, architects and engineers	$18,458 11	
" surveyors, draughtsmen and assistants,	23,410 88	
" laborers, mechanics, horses and carts.	305,606 78	
" materials of construction and tools, &c.	69,520 44	
" fitting up offices, rents, insurance	2,495 27	
" stationery, printing and drawing materials	3,352 75	
" manure and other fertilizers	1,817 75	
" surveyors' instruments	127 75	
" drainage pipe	5,248 93	
" patent pavements	24,382 03	
" water-pipe and hydrants	7,012 12	
" structures erected by contract	19,378 00	
" legal expenses of additional counsel	1,300 00	
Total	$482,110 81	
Balance, January 1, 1873	1,002 07	483,112 88
		$508,004 47

Washington Park.

The total receipts and expenditures on account of Washington Park, for the same time, were:

Balance to credit, Jan. 1, 1872		$33,519 13
Paid surveyors and assistants	$929 65	
" materials of construction and tools	943 78	
" trees, shrubs and plants	742 88	
" on account of inclosing wall	6,410 42	
" laborers, horses and carts	12,729 77	21,756 50
		$11,762 63

Tompkins Park.

Balance to credit Jan. 1st, 1872		$3,797 26
Paid surveyors and assistants	$93 82	
" materials of construction, &c	27 25	
" trees, shrubs and plants	650 47	
" laborers, horses and carts	1,883 74	2,655 28
		$1,141 98

Parade Ground.

The total receipts and expenditures on account of the Parade Ground, during the year 1872, were:

Received.

From County Treasurer	$2,000 00	
Balance, Jan. 1, 1873	425 76	
		$2,425 76

Expended.

Paid keepers	$129 79	
" mechanics, laborers, &c	1,426 78	
" materials of construction	25 85	
Balance, Jan. 1, 1872	843 34	
		$2,425 76

MAINTENANCE ACCOUNT.

Received.

For the maintenance of all the city parks for 1872.....$75,000 00

Expended.

FOR	PROSPECT.	WASHINGTON.	CARROLL.	CITY.	CITY HALL.	TOMPKINS.	
Roads	$9,340 18		.....	.....	.....	.....	
Walks.....	2,522 31	$136 47	$7 20	.....	$9 90	.....	
Structures.....	4,721 28	103 86	123 52	$9 85	.....	$8 75	
Plantations	19,365 94	1,214 98	543 14	206 61	226 62	92 98	
Water	10,485 57	17 19	.....	.....	.....	7 50	
Drainage.....	3,308 70	12 25	.....	.....	.....	4 00	
Ice	5,796 25	.....	.....	.....	.....	.....	
Tools	.....	.....	.....	.....	.....	.....	
Keepers.....	41,268 57	2,866 88	910 26	1,358 35	.....	1,349 30	
General	4,510 09	152 77	102 28	49 65	21 13	43 83	
Music.....	4,092 00	.....	.....	.....	.....	.....	
Total....$	105,410 89	4,504 40	1,686 40	1,624 46	257 65	1,506 36	114,990 16

REPORT

OF

LANDSCAPE ARCHITECTS.

To the Brooklyn Park Commissioners.

Gentlemen:

It has been our custom annually to review the various operations in progress under the control of your department, with the purpose of explaining and justifying the principles of art they are intended to embody, and especially in regard to those on Prospect Park, of showing their relations to its general design. In the present report, for 1872, there seems to be no occasion for a special analysis of their character, as the labors of the past year have been wholly directed to the completion of works previously undertaken, and which have, therefore, been fully described and discussed. A detailed and statistical account of these will be found appended in the report of the Chief Engineer. The most important development of the plan that has been effected during the year, is that of the grading of the southerly portion of the Long Meadow district, and its partial finish and planting. With the growth of the trees, the result will be the broadest, most tranquil, and, in our judgment, most essentially valuable element of the whole property. Even in its present condition, no one can fail, we think, to recognize how important to the general success of the undertaking has been the persistence with which your Commission, in successive years, urged the Legislature to authorize the enlargement of the boundaries of the park in this direction. The result of the contract with the Coignet Company for the erection of the Cleft-ridge Span, has been in the main satisfactory. It was expected that the material would offer great advantages in regard to the introduction of positive color; but this anticipation has not

been fully realized. Blue, red, and yellow tints have been experimented with, and brought into contrast, in the Park Archway; yet the general effect of color is much less decided than was originally proposed. The material appeared to withstand the effect of frost satisfactorily, and as it offered considerable advantages in molding *different* work, it was considered suitable for use in the center of the Plaza basin. Its design was approved by the Commission for the somewhat massive decorative structure, required, in connection with the jet distribution of the large fountain, and an estimate submitted by the Coignet Company proving satisfactory, a contract was made with them for the execution of the work, which is now in progress, the material used being of the ordinary natural color of the sand and cement out of which it is constructed. Each of the main castings is of a complex, curvilinear, and somewhat cumbrous form; yet the lines are kept with remarkable exactness, no warping, expansion, or shrinkage being perceptible. This is a great advantage in repetitive architectural work, castings in other materials, iron or terra cotta, for instance, being so liable to inaccuracy that they can hardly be reckoned on to fit together with any degree of precision.

As directed by the Commission, a contract has been made for the railing round the Plaza fountain basin. It is to be of iron, electro-plated with copper, and is of somewhat special design, as the intention has been to obviate any necessity for the use of lamp-posts, by the introduction of a circlet of lamps on the interior line of the railing. In this position they can be overlooked by day or by night; while upright standards, with lamps attached, would at all times have obstructed the view of the water effects of the fountain. A contract has also been made for the lamps and standards to be used on the Plaza. A general design for the martyrs' memorial to be erected at Fort Greene has been adopted, and the foundations of the work have been executed; a portion of the structure having been put under contract late in the season. A design for the Rostrum intended to be built at the angle of the Muster Ground in Fort Greene, has been accepted, but no contracts have yet been authorized for this work.

January, 1873.

OLMSTED & VAUX,

Landscape Architects and Superintendents.

ENGINEER'S REPORT.

MESSRS. OLMSTED & VAUX.

Gentlemen:

I submit herewith a report of operations and progress of work during the year 1872, together with the usual statistic inventories, &c., for the same period.

Owing to the very severe and protracted cold weather of the early part of the season, construction work was not resumed until the 1st day of April; and, owing to limited funds at the disposal of the Commissioners for the year, was discontinued about the 1st of September following. During this period, however, we employed an average daily force of over 900 men, and their labor was mainly confined to the development of the surface work, and planting of the large area lying on the southwest side of the park and the westerly slope of Lookout Hill.

DETAILS OF CONSTRUCTION.

PROSPECT PARK.

During the brief working season within which our operations were restricted, the force was distributed as follows:

PLAZA.

Early in the year a part of the thirty-foot sidewalk on either side of the entrance drive was covered with an improved concrete pavement, the surface being colored by a new process after the body of the pavement had been put down. While the substantial part of the pavement has proven satisfactory, the colored surface has failed, the process by which the coloring matter was incorporated with the material forming the pavement evidently being imperfect.

To a considerable extent the use of tar concrete pavements has proven satisfactory and economical on the park; but a process by

THE FOUNTAIN IN THE PLAZA

OLMSTED VAUX & CO. LANDSCAPE ARCHITECTS

which their color might be relieved would materially enhance their value. The process above referred to was understood to be an experiment in this direction at the time it was laid down.

FOUNTAIN.

During the summer and fall season the temporary fountain was in daily use, with the exception of a short period, during which the supply was so limited as to barely meet the more urgent demands of the city. The railing surrounding the basin has been cast and bronzed, and will be ready to set up as soon as the weather will permit. The dome of artificial stone for the fountain at the Plaza, manufactured by the Long Island Coignet Company, has been prepared, and is now ready for delivery. It is intended to put it in place during the ensuing season.

The Plaza generally presents an unfinished appearance, due in the main to the work in progress on its borders, and to the fact that the bulk of the travel is from choice confined to the side roads, which, being unpaved, are preferred by the driving public.

The pavement bordering upon the City Railroad track is in constant bad condition, and the company, whose duty it is to keep it in order, should be required to properly repair this part of the Plaza roadway.

ARCHWAYS AND MASONRY.

Early in the season the New York and Long Island Coignet Company resumed work on Cleft-ridge Span, and completed so much of the arch as remained unfinished at the date of my last report. The roadway over the arch was thrown open to the public early in spring. An ornamental pavement of Coignet stone has been laid under the archway. All of this work has satisfactorily withstood the effects of a winter and summer exposure, exhibiting no marked signs of disintegration or other material defect. From our experience and observations, I am led to believe that the use of this material may be regarded desirable in many ways, a skillful and thorough manipulation of the material being alone necessary to secure uniformity and strength sufficient for all purposes of general construction.

MASONRY AT THE CONCERT GROVE.

Early in the season the work of cutting stone was resumed for the terraces of the Pedestrian Concourse, and later the setting of masonry was commenced. As foundations of the stone-work of

this neighborhood made up a considerable part of the cost of the whole, concrete was substituted for the usual rubble-stone foundations. This concrete was made in the following proportions: Rosendale cement one part, sand two parts, gravel four parts; and was laid at a cost of less than $5 50 per cubic yard, thus securing by its substitution a saving of $5 per cubic yard on the cost of an ordinary good stone foundation. Of this work all the foundations are put in; the coping and piers of the water-terrace wall are three-quarters finished; the three flights of large steps on the middle terrace set, as also are the smaller flights above the middle terrace; two of the flower basins are set and nearly completed, and the landing and approaches opposite the Irving bust well advanced. The stone cutting for the whole work is well advanced; but the carving is yet to be done. With the exception of putting in a flight of steps at the Nethermead Arches, the setting of a number of road-steps, and the building of silt basins on the lines of walk constructed during the year, but little other mason work was done.

BUILDINGS.

Two shelters of cedar and sassafras wood have been erected upon the border of the lake, parallel to the south lake drive, from which unobstructed views of the water and distant features of the park may be had; and the remaining work required to finish them will be done in the spring. Two shelters, similar in design and construction to those at the Plaza, have been placed at the entrance at Franklin avenue and the Coney Island road. These are intended to afford a convenient waiting place for visitors to the park, and are much used for this purpose.

The ornamental frame-work, to support an awning of considerable extent, is in course of construction. The site for this will be on the summit of the promenade or south lake drive, and will be placed on the south side of the drive, facing the lake. In connection with this awning shelter, under which convenient seats will be arranged for visitors, it is designed to construct a small building for the convenience of the public.

DRIVES.

But little work has been done upon the park drives during the year, the very limited maintenance fund at the disposal of the Commissioners only permitting the most superficial treatment. As a consequence, the drives lack a uniform surface, and are in

many parts worn away to such an extent as to require, at an early day, the addition of considerable material to restore them to the condition in which it is found to be economy to maintain them.

The construction of the south lake drive of park gravel, a material made up of gravelly sand and loam found in the neighborhood of the park, was to some extent an experiment in park drives. But it has resulted so satisfactorily in our case as to render it doubtful if we shall ever have occasion to use any other than a similar material for renewing the surface of the park drives. Indeed, if ordinary care be taken to secure reasonably thorough surface drainage (beyond the fact that its wear may be to some extent more rapid than a more homogeneous gravel), there need be no occasion to look for better material for constructing a class of roadways designed mainly for light travel, at least so long as the maintenance forces of the park shall require so economic an adjustment.

A settlement of the roadway of the west drive, at the point of crossing Eleventh avenue, occasioned by the shrinking of the underlying peat, has been repaired, and the original grade of the road restored. Some additional excavation has been made on the branch drive to Ninth avenue and Fifteenth street entrance, preparatory to its completion in the spring.

The completion of the main drive to its full width along the westerly base of Lookout Hill, has been temporarily delayed to enable us to make use of a deposit of sand desirable for building purposes.

The roadway at the junction of the wood and Breeze Hill drives, and along the east lake drive, to the main carriage concourse, was widened by abandoning the ride at these points, and adding it, together with a strip of ten feet on the westerly side, to the old roadway. This change was made in the spring, and was found to be a very desirable one, in view of the increase of travel at this part of the drive.

RIDES.

The east ride has been finished to its terminus at the junction of the east lake and concourse drives; the Nethermead ride is also finished. During the fall the lake rides, which were used as cart runs, have been restored to their proper use. The northwest ride has been entirely completed from the Nethermead drive to the west drive, near the old line of Thirteenth street. The ride made of gravel one foot in depth, the coarser layer being raked forward

to form the base, gutters of small stone are laid on either side. The width of the ride is twenty feet, and for a considerable distance it runs adjacent to and parallel with the drive. With the exception of a small portion along the base of Lookout Hill, the rides contemplated in the design are completed.

WALKS.

The Westdale walk has been extended from the picnic woods, running generally parallel with the west drive, turning by the cemetery, and connecting with the walks near the pools, then completing the circuit of the Long Meadow. The walk connection with the Ninth street entrance has also been graded, and its superstructure completed. The Ambergill walk, and also the Esdale walk, from the pools to the Nethermead arches, were originally formed of gravel. This was found to be unsatisfactory in bad weather, and very expensive to maintain, and were accordingly surfaced with concrete, with a satisfactory result. A portion of the Westdale walk has been treated in the same way for similar reasons. The walks unfinished at the date of the last report, west of Cleft-ridge Span, have been completed by surfacing with tar concrete. The walk on the easterly side of Breeze Hill has been laid with a cement pavement, by the Patent Steam Artificial Stone Company. The walks on the south lake and west lake districts have been all laid with concrete pavements, by the Schrimshaw Company, Evans Company, and Long Island Composite Asphalt Company respectively. The walk on the west side of Lookout Hill has been finished to the site of the proposed suspension bridge. At all of the road crossings a road-step has been placed, for the convenience of visitors in carriages who may desire to go upon the walks. A part of the walk on the Franklin avenue circle has been laid in cement of an ornamental pattern.

LAKES, POOLS, AND WATER-COURSES.

The clay used for puddling the bottom and slopes of the large lake, and which was obtained from the deer paddock pool, has proved in the main satisfactory for the purpose. The amount of water lost by infiltration is small, and this will, no doubt, substantially cease, as the fine silt which is wasted from the roads through the drainage outlets is deposited in the bottom. With the usual amount of rainfall for the summer season, it is believed that the lake will reach its highest established level within the next or ensuing season. The uniform maintenance of this level must depend

largely upon the supply of water to be obtained from the park well, in view of the fact that during the warmer months the evaporation of water amounts to nearly 500,000 gallons daily. During the year nearly one hundred and sixty-four million gallons of water were supplied from our well, of which sixty-four million were pumped into our reservoir for ordinary park use, and one hundred million were pumped directly into the lake, to maintain a uniform level, and to offset the loss by infiltration or leakage and evaporation. The average daily requirement for watering drives, plantations, and for drinking purposes is about two hundred and twenty thousand gallons.

The following table shows the work done by the well pump, with cost and other items of interest:

STATEMENT SHOWING WORK DONE BY THE WELL PUMP, AND COST.

Month.	Total Number of Hours Pumping.	Total Number of Gallons Pumped.	Number of Gallons Pumped into Reservoir.	Number of Gallons Pumped into Lake.	Coal used. —— Pounds.	Salaries.	Coal.	Oil, Tallow, &c.	Total Expenses.	Cost per Gallon.
January	217	5,437,300	3,237,800	2,200,000	24,717	$239 08	$74 15	$3 39	$316 62	.0000582
February	270	6,508,665	3,993,795	2,514,870	29,585	186 91	88 75	3 47	279 13	.0000407
March	557	14,213,205	3,134,025	11,079,180	64,605	347 61	193 81	11 91	553 33	.0000389
April	589	14,227,965	4,584,510	9,643,455	64,672	403 60	194 02	29 95	627 57	.0000441
May	669	19,657,485	6,751,800	12,905,685	89,352	397 81	268 06	31 65	697 52	.0000354
June	628	19,333,935	6,638,715	12,695,220	87,881	394 50	263 64	15 53	673 67	.0000348
July	621	19,177,695	6,635,610	12,542,085	87,171	412 03	261 51	11 09	684 63	.0000356
August	606	18,546,975	6,477,660	12,069,315	84,304	413 10	252 91	11 12	677 13	.0000361
September	592	18,547,785	5,486,310	13,061,475	84,308	399 94	252 92	17 90	670 76	.0000361
October	447	14,145,120	5,442,750	8,702,370	64,296	331 18	192 89	14 88	538 95	.0000381
November	274	7,476,210	5,728,770	1,747,440	33,983	195 79	101 95	6 82	304 56	.0000407
December	230	6,253,740	5,323,455	930,285	28,426	189 75	85 29	20 98	296 02	.0000473
Total	5,700	163,526,580	63,435,200	100,091,380	743,300	$3,911 30	$2,229 90	$178 69	$6,319 89	.00003360

The pools and water-courses generally have required but little attention. During the severe storms of last summer considerable damage was done by the exceptionally heavy flow of water. The effects of similar storms in this portion of the park have been anticipated, by suitable provision for carrying off the water, and preventing unusual accumulations.

DRAINAGE.

The drainage of the southerly end of the Long Meadow, at the date of the last report, included only the construction of a brick sewer some 600 feet distant from its outlet in the upper pool. From this sewer lines of eighteen and twenty-inch pipe were laid towards Fifteenth street on the south, and to the district between the west drive and Ninth avenue. Necessary man-holes have been built, and with these connections have been made to basins for draining walks and plantations. These pipes are generally laid in a straight line, with a uniform grade between man-holes or basins, with the view to obviate the liability of stoppage of the flow of water in the pipes, and to secure the means of discovering and removing any obstruction as easily as possible.

The fifteen-inch main crossing the west drive, near the former line of Sixth street, has been extended towards Ninth avenue, in order to drain a pond midway between the drive and the avenue. A ten-inch branch line has been laid from this to drain a second low point near the drive and the former line of Eighth street. The required basins and pipe connections were made in advance of the completion of the walks and surfaces along the west lake drive. Where necessary, the usual provision of tile draining has been arranged in connection with the general system.

WELL AND WATER DISTRIBUTION.

The pump at the well has been worked during the largest part of the year for twenty-two hours per day, to fill up and maintain the supply for the lake. Early in the spring a wrought-iron cylinder four feet in diameter was introduced under the suction pipe, for the purpose of pumping the water in the well to a lower level. During the year, the twelve-inch wrought-iron and cement pipe required to finish the circuit along the base of Lookout Hill was laid, thus completing the pipe system for water supply adopted in 1867. Galvanized iron pipe has been laid to supply water for drinking and other purposes at the pedestrian concourse and the temporary music ground; also a lead pipe has been laid to supply the shelter at the playground.

PLANTATIONS.

A large part of the force have been engaged during the season on the southerly end of the Long Meadow, and this has been entirely completed, with the exception of the planting; considerable filling was required on this area to properly adjust the surfaces for drainage. The material needed for this purpose was obtained from the high ground near the west drive, and along the slopes of Fifteenth street. The absence of suitable soil on this portion of the park rendered it necessary for us to procure it outside of the park limits; and we were fortunate, at this juncture, to obtain it from the adjacent property, with the consent of the owners.

The unfinished surfaces along the west lake drive, at the date of last report, have been completed and seeded during the summer, as also the westerly slope of Lookout Hill. The slopes of either side of Cleft-ridge Span and plantation about the concert grove house, have been finished and seeded. The planting along west and south lake drives have been filled in during the season, as well as the slope of the Lookout Hill and about the concert grove house. The planting of the Long Meadow and adjoining districts is already outlined, and will be completed in the spring.

DEER PADDOCK.

The area set apart as a deer paddock contains $10\frac{225}{1000}$ acres, of which $1\frac{579}{1000}$ acres is water, $2\frac{271}{1000}$ acres in wood, and $6\frac{375}{1000}$ acres meadow. This has been finished, and inclosed by a suitable iron fence, and the paddock may now be occupied by the deer. This collection, though small, formed one of the most attractive features on the park. Additions to this stock, by donation or otherwise, would be very desirable.

WASHINGTON PARK.

At the date of the last annual report, the construction of the boundary wall was nearly complete along the muster ground, Myrtle avenue, and Cumberland street. During the year the granite piers forming the corners have been put up, and all the entrances finished. The Cumberland street and Myrtle avenue sidewalks have been graded and planted with trees, and the ground immediately in the rear of the wall shaped, soiled, and seeded. The trees on the muster ground have also been planted, and tar pavement laid over nearly all the area remaining to be covered. A portion of the work for the Martyrs' memorial was let to Mr. Robert Ellen of New York. The foundation has been built, and

THE ROSTRUM - FORT GREENE -

TO BE ERECTED ON THE MUSTER GROUND

OLMSTED VAUX & CO. LANDSCAPE ARCHITECTS

the remainder of the work is discontinued until spring in consequence of frost.

The use of this park by the citizens has been very satisfactory. The enjoyment of the facilities afforded to all has been marked by a due sense of appreciation of the responsibility of the Commissioners, and the rules and regulations governing its public use have been carefully and thoughtfully observed. Its maintenance has involved but comparatively slight expense. The drainage system has done its work well, and the walks are generally in good repair. The water supply is insufficient, and should be largely increased.

TOMPKINS SQUARE.

During the spring the trees and shrubs contemplated in the working design were planted. Iron drinking fountains have been set in place at either end, and seats provided at intervals for the convenience of visitors. Since the park has been completed and thrown open to public use, it has been visited and enjoyed by large numbers of the residents in this vicinity.

CITY PARK.

With the exception of cutting down and removing a few dead and unsightly trees, but little work was done on this park during the year, beyond what was necessary to keep it in order for use. This area affords a breathing space for a large number of poor people, whose means and opportunities probably prevent them from visiting the large park of the city.

CARROLL PARK.

At the opening of the season, Carroll Park was put in thorough order and has required but little attention during the season. The walks, however, which were laid with Fiske pavement, are in a very bad condition, being full of holes and very much disintegrated, so much so as to render the walking very uncomfortable for visitors, and even dangerous for children. These should be thoroughly repaired during the ensuing season.

THE OCEAN PARKWAY.

The preliminary surveys for the ocean parkway were made during the fall, and the plans and specifications prepared. The plan of construction included a width of 210 feet, consisting of a central driveway 70 feet wide with two side roads each 25 feet

wide, each separated from the central driveway by two 10-feet strips of planting and a 10-foot walk, and each bounded on the outside by 15-foot sidewalk. Six rows of trees run the entire length of the parkway, a little over three miles. The work, as let, is divided into two sections. On the first section, the drive and roadways are defined by lines of curb and gutter. On the second section these are omitted. A line of 6-inch cast-iron water pipe also supplies the first section with water. The plan includes the necessary basins, &c., for drainage. The driveways will be formed of gravel 15 inches deep, and the side roads of gravel 6 inches deep.

EASTERN PARKWAY.

The work of grading the parkway from Washington avenue to to the plaza, has been actively carried forward during the whole year. The grading from the end towards Washington avenue (D. O'Brien contractor), has progressed in a satisfactory manner. The excavation from the plaza end, was commenced by T. McCann, contractor, in January, and has continued during the year. In September, J. E. Curtin was awarded a contract for excavating earth, and commenced work immediately at a point between the other two contractors. His work is progressing in a satisfactory manner. In June, the grading of this portion of the parkway had so far progressed that the work of curbing, paving and macadamizing the drives was commenced at Washington avenue. This work was continued until the last of September. The grading of the parkway necessitated the lowering the "force main" to Prospect Hill reservoir, about 18 feet at Underhill avenue, where it crosses the parkway. This was successfully accomplished during the months of October, November and December, under the directions of "the Board of City Works," the necessary force of laborers being furnished from the "park" forces.

The contract for curbing, paving and otherwise finishing the parkway from "Washington avenue to the city line," was awarded to P. Hanlon, in July. The work was commenced immediately. The work of curbing and paving was suspended December 6th, and a complete suspension of the work for the winter, was made December 24th.

EAST-SIDE LANDS.

The earth excavation from the parkway between Washington avenue and the plaza, has been used (with the exception of the excavation at the plaza end) to bring the low ground westerly of of Washington avenue to the established grade. The soil has also

been removed from a portion of the ground that will have to be graded, and used for park purposes.

DOUGLAS AND DEGRAW STREETS.

The contract for grading and paving "Douglas" street (100 feet wide) and "Degraw" street (35 feet wide), both extending from "New York avenue" to the "city line," was awarded in March to Messrs. Smith & Ripley. Work was commenced on both streets soon after, and is being pushed forward in a satisfactory manner.

STATEMENT OF CONSTRUCTION FOR THE YEAR 1872.

CURB SET.		
East parkway, Washington ave. to plaza	3,525	lin. ft.
" " to city line	19,296	"
Douglas street	2,122	"
	24,943	"
GUTTER STONE SET.		
East parkway, Washington ave. to plaza	1,907	lin. ft.
" " to city line	6,494	"
	8,401	"
BRIDGE STONE SET.		
East parkway, Washington ave. to plaza	794	lin. ft.
" " to city line	1,104	"
Douglas street	143	"
	2,043	"
COBBLE-STONE PAVEMENT.		
East parkway, Washington ave. to plaza	4,745	sq. yds.
" " to city line	6,100	"
	10,845	"
BELGIAN PAVEMENT.		
East parkway, Washington ave. to plaza	3,780	sq. yds.
" " to city line	16,946	"
Douglas street	5,953	"
	26,679	"
STONE BROKEN.		
Belgian blocks	609,347	
McAdam stone, Washington ave. to plaza	862	cu. yds.
" " to city line	3,876	"
	4,738	"

EXCAVATION.

East parkway, Washington ave. to plaza	125,327	cu. yds.
Douglas street	136,392	"
Degraw "	37,917	"
Soil moved, east-side lands and parkway	4,892	"
	304,528	"

TABULAR STATISTICS OF CONSTRUCTION UP TO JANUARY 1ST, 1873.

DRIVES.

Drives finished,	60	feet wide	1,504	lin. ft.
"	52	"	437	"
"	50	"	5,154	"
"	46	"	5,613	"
"	40	"	12,327	"
"	30	"	1,500	"
"	27	"	1,610	"
"	25	"	400	"
"	23	"	1,675	"
"	50	" (Franklin ave.)	3,546	"
Total length of drive finished			33,766	"
			6.39	miles.

Drives in progress,	50	feet wide	340	lin. ft.
" "	40	"	2,260	"
		Total	2,600	"
			or 0.50	miles.

CONCOURSES.

Finished concourses for carriages, plaza	283,527	sq. ft.
" " " park	360,537	"
" " pedestrians, plaza	26,742	"
" " " park	59,300	"
" " " Wash. park	153,592	"
" " " Tomp. square	15,376	"
" " " parade ground	21,600	"
Total	920,674	"
	or 21.13	acres.

Concourses in progress for carriages, park	164,046	sq. ft.
" " " pedestrians, park	153,200	"
" " " " Wash. park	20,646	"
" " " " parade gr'd.	4,000	"
Total	341,892	"
	or 7.85	acres.

RIDES.

Rides finished, 30 feet wide	3,625	lin. ft.
" 20 "	8,080	"
" 15 "	2,775	"
" 14 "	500	"
" 12 "	726	"
" 8 "	600	"
Total	16,306	"
	or 3.09	miles.

Rides in progress, 20 feet wide	500	lin. ft.
	or 0.10	miles.

WALKS.

Walks finished, 40 feet wide	131	lin. ft.
" 30 "	156	"
" 20 "	3,302	"
" 16 "	21,707	"
" 14 "	4,660	"
" 12 "	18,537	"
" 10 "	2,760	"
" 8 "	3,333	"
" 6 "	240	"
" 5 "	57	"
" 4 "	175	"
" 3 "	199	"
" 52½ " (Washington Park)	496	"
" 16 "	775	"
" 14 "	4,300	"
" 12 "	1,857	"
" 10 "	622	"
" 8 "	505	"
" 55 " (Tompkins Square)	334	"
" 25 "	1,919	"
" 20 "	601	"

Walks finished, 18 feet wide	2,462	lin. ft.
" 8 " (Carroll Park)	2,275	"
Total	71,403	"
	or 13.52	miles.

Finished walks at Prospect Park	10.47	miles.
" Washington Park	1.62	"
" Tompkins Square	1	"
" Carroll Park	0.43	"
Total	13.52	miles.

Walks in progress, 40 feet wide	912	lin. ft.
" " 30 "	10,910	"
" " 25 "	2,175	"
" " 20 "	8,053	"
" " 16 "	400	"
" " 12 "	575	"
" " 30 "	1,540	"
" " 14 "	164	"
Total	24,729	"
	or 4.68	miles.

DRAINAGE.

36-inch brick sewer built	660	lin. ft.
20 " vitrified pipe laid	730	"
18 " " "	4,071	"
15 " " "	10,021	"
12 " " "	11,524	"
10 " " "	5,986	"
8 " " "	15,116	"
7 " " "	305	"
6 " " "	27,076	"
5 " " "	1,694	"
4 " " "	3,706	"
2½ " " "	675	"
10 " " " (Washington Park)	315	"
8 " " " "	1,020	"
6 " " " "	2,066	"
5 " " " "	1,234	"
4 " " " "	2,729	"
10 " " " (Tompkins Square)	380	"
8 " " " "	100	"

7-inch vitrified pipe laid (Tompkins Square)	424	lin. ft.
6 " " " "	401	"
5 " " " "	707	"
6 " " " (Carroll Park)	97	"
4 " " " "	310	"
6 " cement pipe " "	142	"
Total	91,589	"
	or 17.35	miles.

3-inch tile pipe laid	20,556	lin. ft.
$2\frac{1}{2}$ " " "	25	"
2 " " "	28,530	"
$1\frac{1}{2}$ " " "	7,637	"
2 " " " (Washington Park)	2,034	"
$1\frac{1}{2}$ " " " "	529	"
Total	59,311	"
	or 11.23	miles.

WATER DISTRIBUTION.

Wrought iron and cement pipe, 16 inch	3,023	lin. ft.
" " " 12 "	4,978	"
" " " 6 "	13,006	"
" " " 4 "	3,829	"
Cast iron pipe, 20 inch	347	"
" " 16 "	29	"
" " 12 "	2,983	"
" " 8 "	191	"
" " 6 "	78	"
" " 4 "	58	"
" " 3 "	53	"
" " $2\frac{1}{2}$ "	10	"
Wrought iron pipe (galvanized), 3 inch	1,067	"
" " " 2 "	318	"
" " " $1\frac{1}{2}$ "	1,044	"
" " " $1\frac{1}{4}$ "	1,356	"
" " " 1 "	2,286	"
" " " $\frac{3}{4}$ "	28	"
" " " $\frac{1}{2}$ "	1,267	"
Lead pipe, 1 inch	633	"
" (tin lined), $\frac{3}{4}$ inch	1,006	"
" " $\frac{1}{2}$ "	303	"

Lead pipe (tin lined), $\frac{1}{2}$ inch, Washington Park	294	lin. ft.
" " $\frac{3}{8}$ " "	1,064	"
" " $\frac{1}{2}$ " Tompkins Square	271	"
Total	39,522	"
	or 7.49	miles.

Check valve	1
Blow-offs and branches	85
Stop-cocks	51
" Washington Park	11
" Tompkins Square	2
Air-cocks	12
Hydrants	41
Reducers	7
Meters	2
Iron drinking fountains set	7
" " Washington Park	1
" " Tompkins Square	2
Iron urinals set	4

Gas pipe laid, 4 inch	700	lin. ft.
" " 3 "	88	"
Total	788	"
	or 0.15	mile.

Iron fence set, Washington Park	703	lin. ft.

AREA OF OPERATIONS UP TO JANUARY 1, 1873.

Area worked over up to January 1st, 1872	426	acres.
" " " (Washington Park)	29	"
Surface finished, meadows and slopes	$221\frac{7}{10}$	"
" " woodland	$61\frac{1}{10}$	"
" " water surfaces	$61\frac{3}{10}$	"
" " roads and walks	$74\frac{8}{10}$	"
Total	$418\frac{9}{10}$	"
Surface seeded	279	acres.
Surface finished, Washington Park	28	"
" Tompkins Square	$8\frac{84}{100}$	"
" Carroll Park	$2\frac{32}{100}$	"

MASONRY.

Amount of brick masonry	4,151	cub. yds.
" " Washington Park	76	"
" " Tompkins square	30	"
" stone masonry	7,732	"
" " Washington Park	830	"
" Beton Coignet	697	"
" concrete	5,105	"
" " Washington Park	523	"
" steps set	8,271	lin. feet.
" " Washington Park	796	"
" coping set	2,436	"
Number of granite entrances	6	"
" " piers	18	"
Amount of curb set	84,237	"
" " Washington Park	1,349	"

Belgian pavement laid	306,237	sqr. feet.
Cobble " "	78,180	"
Brick " "	27,114	"
Brick gutter "	21,148	"
Telford " "	74,191	"
Cobble " "	40,843	"
Flagstone " "	11,029	"
" " " Washington Park	786	"
Flagging "	478	"
Tar concrete "	830,738	"
" " Washington Park	284,811	"
Cement concrete "	7,898	"

AMOUNT OF STONE BROKEN.

Macadam stone by breaker	17,388	cub. yds.
Telford and building stone by hand	10,812	"
" " " Wash'gton P'k.	2,569	"
Spall " "	12,956	"

MATERIAL MOVED.

	During 1872. Cub. yds.	Total to Jan. 1, '73. Cub. yds.
For grading and shaping drives, rides, walks, meadows, and slopes	104,952	672,884
Lakes, pools, and streams	17,380	807,280
Plaza	....	172,355
Sewers, drains and water distribution	7,305	113,238

	During 1872. Cub. yds.	Total to Jan. 1,'73. Cub. yds.
Soil	38,021	542,340
Peat	2,469	78,267
Clay	....	62,159
Manures and composts	4,079	49,236
Stone	805	92,999
Gravel and sand	18,402	134,682
Miscellaneous	....	19,219
Total at Prospect Park	193,413	2,744,659
Material moved at Washington Park	10,122	109,001
" " Tompkins square	741	42,422
Grand total	204,276	2,896,082

STATISTICS OF FORCE.

During the working season the average number of men employed was 922. The largest number at any one time, 1,103; being somewhat less than on the previous year. Active operations began April 1st, and were suspended August 31st.

The following statement shows the average monthly force employed during the year, as well as for previous years, together with a comparative statement of working days for the same period:

Active operations commenced on the park in the latter part of July, 1866.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Average Force for the Year.
1866	.....	.....	.....	.....	.....	300	335	450	550	620	700	725	451
1867	700	630	410	800	1000	1150	1200	1525	1750	1825	1800	1100	1157
1868	944	812	508	1215	1047	1189	1095	1090	1116	1118	1167	912	1017
1869	740	698	746	946	959	988	991	1006	975	946	552	204	812
1870	139	134	134	164	594	721	661	730	806	839	853	845	551
1871	738	645	679	1002	1144	1148	1105	1060	790	759	673	422	847
1872	385	250	333	716	875	988	1022	1021	519	373	266	265	584

—	Working Days.	Interrupted by Weather.
1866, for 6 months	104	21
1867, for 12 months	289	37
1868, " "	297	64
1869, " "	250	57
1870, " "	282	26
1871, " "	278	35
1872, " "	279	35

During the year 1872 there were 279 days when the full force was employed, and 35 days when work was interrupted by weather.

ORGANIZATION.

The force for the year 1872 was as follows:

(1) General foreman.
10 Barrow gangs, 1 at Fort Greene, and a portion of one at Tompkins square, average 46 men each.
4 Cart gangs, average 34 men and 36 carts each.
1 Team gang, average 34 men and 61 teams.
1 Stone-breaking gang, 4 men.
1 Miscellaneous gang, 39 men.

Of this force, about 40 men and 9 teams were required for sprinkling the roads and general maintenance, to which is added a force of gardeners in the spring and summer, for the care of shrubbery, mowing, &c.

MECHANICAL FORCE.

1 Foreman of stone-cutters and stone-masons.
88 Stone-cutters and stone-masons, largest number employed at any one time.
1 Foreman of brick-masons.
4 Brick-masons.
1 Foreman of carpenters.

17 Carpenters.
1 Foreman of blacksmiths.
5 Blacksmiths.
4 Helpers.
1 Foreman of rustic work.
3 Rustic carpenters.

GARDENING FORCE.

1 General foreman.
1 Foreman.
7 Master gardeners.
13 Skilled laborers.
102 Laborers.

The gardening force was under the immediate supervision of the Park Inspector, Mr. O. C. Bullard.

TOTAL FORCE.

During the year there have been appointed:

55 Skilled laborers.
1,351 Laborers.
212 Carts.
87 Teams.
193 Mechanics.
38 Miscellaneous.

DISCIPLINE.

The following is an abstract of the record of promotions, suspensions, and discharges during the year:

APPOINTMENTS, PROMOTIONS, AND RESIGNATIONS.

Number of Foremen appointed	9
" Assistant Foremen appointed	13
" " " promoted to Foremen.	3
Resignation of Foremen	2

SUSPENSIONS.

Number of Foremen suspended for breach of discipline	4
" Laborers	102
" Horses and carts	59
" Teams	12

DISCHARGES.

Number of Foremen discharged for gross violation of rules		1
"	Laborers	288
"	Horses and carts	39
"	Teams	18

PARK FURNITURE.

Twenty-four iron-frame and 347 wooden-frame settees have been constructed during the year, and are placed in the different parks, in addition to those in use in previous years, as per the following exhibit:

PROSPECT PARK.

Iron-framed seats	441
Rustic seats	44
Wooden seats	535

CARROLL PARK.

Iron frames	68
Rustic seats	6

WASHINGTON PARK.

Iron frames	89
Rustic seats	1

CITY PARK.

Iron frames	16

TOMPKINS SQUARE.

Iron frames	16

HORSES.

There are fourteen horses belonging to the Commission, seven having been purchased during the year.

One is required for the use of the superintendents, and one for the Chief Engineer, leaving twelve which are in daily use on the work.

WAGONS AND TRUCKS.

Two light wagons are used by the Superintendents and Chief Engineer, and four heavy trucks for use on the work, together with six trucks for sprinkling the drives.

There are also three tree trucks on hand and in good condition.

FERTILIZING MATERIALS.

During the year there has been purchased:

278 Two-horse loads street manure.
714 One-horse " "
674 Two-horse " horse manure.

DONATIONS.

The following is a list of the gifts to the Commissioners, and from whom:

1 Imported calf, from Thos. Prosser, Brooklyn.
2 Pea fowl, " " "
1 " from Mrs. Wessman, 478 Washington avenue.
3 " " Comptroller Schroeder, Brooklyn.
1 Package Tigridia bulbs, J. J. Vanderbilt, Flatbush, Brooklyn.
3 Swans, from Capt. Olmsted, Flatbush, Brooklyn.
1 American bittern, H. A. Rosenthal, "
1 Deer and two fawns, Jas. Hand, "
2 South American squirrels, W. F. Fuller, "
1 Tame crow, T. Leeds Waters, "
1 Chinese goose, Capt. C. A. Raulett, "
1 Ant bear, Mrs. J. T. Perkins. "
2 Pea fowls, Mr. Horton, "
2 Fawns, through W. P. Kendall, "
200 Trout, from Wm. Furman, Maspeth, L. I.

Several large and valuable trees, including elms, maples, lindens, larch, and birches, were presented by Dr. Bartlett, Judge J. Vanderbilt, and G. H. Lefferts, Esq., of Flatbush, L. I. These trees were moved by truck into favorable locations on the park during the spring of 1872, and all are in thriving condition. Mr. A. G. Burgess, of East New York, contributed a singularly curious weeping elm, which has been planted near the Cleft-ridge Arch. Mr. Stettee, of Wyckoff street, Brooklyn, makes frequent contributions of choice flowering plants, bulbs, &c.

GRAVEL.

1,115 cubic yards of gravel were purchased during the year, a portion of which was required for the maintenance of roads, &c., the balance now being on hand.

PUBLIC USE OF THE PARK.

A record of the number of visitors to the park is given below, for the several months of the year; and while this record is made

up from careful approximation only, a marked decrease in the number was noticeable during the prevalence of the horse disease in the spring. This disease occurred at a season of the year when the driving in the park was greatest, and this was almost entirely suspended. Convenient access to the park by the city cars, was also interfered with for the same reason, and this largely affected the number of those who visit the park ordinarily by this means.

MONTHLY RETURN OF VISITORS FOR THE YEAR ENDING DECEMBER 1st, 1872.

MONTHS.	CARRIAGES.	EQUESTRIANS.	PEDESTRIANS.	SLEIGHS.	TOTAL.
January	80,302	5,964	131,857		378,727
February	75,748	5,085	90,443	4,338	335,786
March	79,737	5,031	35,516		279,758
April	128,318	8,646	115,552		509,152
May	139,315	10,003	212,560		640,508
June	164,549	7,557	276,844		778,048
July	167,325	5,865	251,838		759,678
August	143,519	5,265	214,724		650,546
September	146,919	7,053	205,486		653,296
October	94,701	6,311	106,736		397,150
November	43,411	2,508	50,262	7	183,024
December	34,390	2,195	75,340	14,162	223,191
	1,298,234			18,507	
	3,894,702	71,483	1,767,158	55,521	5,788,864

Whole number of vehicles entering the park during the year, 1,316,741; of these, 18,507 were sleighs, viz., 4,338 in February, 7 in November, 14,162 in December. 71,483 equestrians are reported. The largest number of visitors on any one day was 107,769, on May 29th. 1,319,359 persons have visited the park on Sundays.

The freedom with which the public have been permitted to make use of the park domain, while enhancing their enjoyment, did not to any appreciable degree add to the cost of maintenance for the year.

A stroll on the meadow or in the woods, within the very free limit bounding the privilege, seems to have afforded to the community, in the fullest sense the exercise of their rights as citizens. This indulgence, if it may be so called, has rarely required the spur of official reproof to confine visitors within the prescribed limits, and their use of the park has been marked by the exercise of good taste and discretion.

During the spring, summer and fine fall weather, some hundreds of picnic parties, consisting of church and sunday-school gatherings and others, have made use of the west woods. To these we have extended such facilities in the way of police surveillance, supply of tables, water, swings, &c., as was necessary for their accommodation and pleasure.

A public carriage service has been in operation during the year. This service has been well patronized, and is understood to have given general satisfaction to the public. During the coming year, this service will be enlarged to meet the necessary demands.

In the month of May, boats were placed upon the lake under the management of Edward A. O'Brien, lessee, for the public service.

KEEPER FORCE.

Organization for the year 1872:

1 Head keeper.
3 Wardens.
13 Range keepers.
29 Post keepers.

DISTRIBUTION.

On Prospect Park:

3 Wardens.
12 Range keepers.
20 Post keepers.

On Washington Park:

1 Range keeper.
3 Post keepers.

On Carroll Park:

2 Post keepers.

On City Park:

2 Post keepers.

On Tompkins Square:

2 Post keepers.

The head keeper is the executive officer of the entire force.

During the year one range keeper and four post keepers have resigned. One warden has been discharged to reduce the number of that grade of officers—two wardens being the present number. One range keeper and four post keepers have been discharged for breach of discipline.

Instead of suspension for definite periods for cases of breach of discipline not demanding discharge, fines of loss of pay, for one or more days, have proved more efficacious. Five such fines have been imposed in the grade of post keepers. Two post keepers have been promoted to range keepers.

ARRESTS.

For fast driving	3
" disorderly conduct	22
" interfering with keepers	5

ACCIDENTS.

The following have been recorded at the keepers' station: To persons and carriages on the drives, 76. Five cases of serious injury to persons; one resulting in death. On the work, seven accidents—one fatal.

Four cases of sun-stroke occurred—none fatal. One woman found dead on Washington Park. The body of a new-born infant found in the lake on Prospect Park. In both cases, the bodies were turned over to the coroner. Three lost children were restored to their homes. During the year 40 persons have been cared for and sheltered for the night at the station.

This includes instances of necessary detention for protection of themselves from harm, and the public from annoyance, of intoxicated persons, in cases not resulting in serious disorderly conduct. There are also occasional applications for shelter at the station, by destitute persons in inclement weather.

IMPOUNDED ANIMALS.

Whole number impounded, 122. Goats, 35; cows, 18; horses, 23; swine, 44.

SKATING.

The last season of skating commenced December 16th, 1871, and closed February 28th, 1872.

Number of skating days, 55.

PLANTING.

The statistics of the planting department for the year 1872 will show smaller aggregates in the several tables, than those of previous years. This may be accounted for, in part, as follows: The season for the most profitable planting in the spring was materially shortened by the unfavorable weather in March and April, followed by rapid expansion of the buds when warm weather actually set in. The necessary removal of the large nursery on the line of the eastern parkway, trenched somewhat upon our spring planting, as some of the stock had to be transferred to new nursery grounds, and does not enter into the tables other than as stock in nurseries.

The unprecedented destruction of evergreens during the month of March, 1872, over so large a portion of the country, did not altogether pass us by, although the loss on Prospect Park was far less than was at first supposed. Some species of evergreens which heretofore have been considered sufficiently hardy for higher latitudes than our own, were badly damaged or entirely destroyed. The ordinary methods used for the protection of plants of doubtful hardiness were of no avail. This may have been the result of the sudden and remarkable fall of temperature, accompanied by cold, piercing winds which followed weather in February so mild as to have induced premature activity in many plants. The absence of snow during the late winter months and early spring, was doubly unfortunate. Had there been a body of snow on the ground in February, warmer weather than was experienced during that month, would have been required to have melted the snow and raised the temperature of the ground, thus sodden with cold snow water sufficiently for any undue movement of sap.

The unusual frosts of March came upon ground, dry and comparatively warm, and coming without snow (the natural protection of roots against severe cold), great loss was inevitable. One of the results of this misfortune, was the necessary time taken from our short planting season to repair damages on the older planta-

tions. Fortunately, most of our early planting of evergreens had been thickly massed for speedy effect and mutual protection, with the intention of thinning out for the later planting; but considerable labor was involved in re-arranging and replacing losses. This class of labor is not included in the table of planting.

One other point of explanation. The early reduction of force in the autumn, essentially curtailed our usual fall and winter planting. No large trees, and very few nursery trees and shrubs, have been planted during the last half of the year.

The following statements give the stock now on hand in the nurseries, and what has been permanently planted out:

Deciduous trees	12,020
Deciduous shrubs	18,974
Evergreens	18,274
Vines and creepers	6,236
Herbaceous plants	1,149
Ferns	300
Total	56,953

Number of trees, shrubs, &c., planted out on Prospect Park, during the year ending Dec. 31, 1872:

Deciduous trees	4,166
Deciduous shrubs	6,540
Evergreens	843
Vines and creepers	1,069
Ferns	4,000
Herbaceous plants	1,157
Bedding plants	2,670
Flower bulbs	3,500
Total	23,945

284 trees have been moved by trucks or stone boats.

WASHINGTON PARK.

Deciduous trees	59
Deciduous shrubs	60
Evergreens	1,116
Herbaceous and bedding plants	336
Total	1,561

CARROLL PARK.

Evergreens	156
Total	156

TOMPKINS SQUARE.

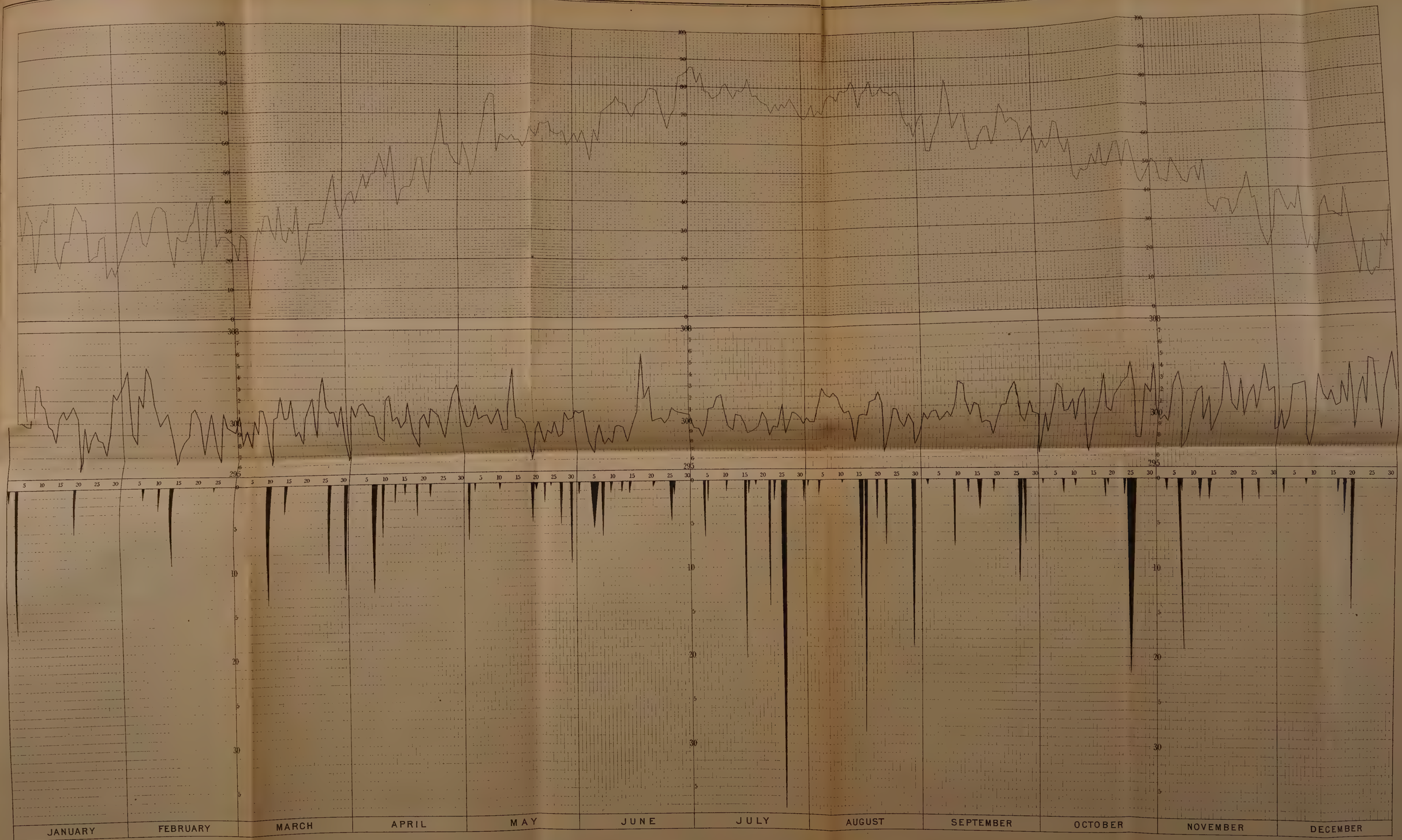
Deciduous trees	269
Deciduous shrubs	794
Evergreens	377
Total	1,440
Aggregate	3,147

Meteorological observations have been carefully maintained throughout the year, records of which are herewith given.

These tables have been supplied to the daily papers, and have been frequently called for, in cases of litigation before the courts, to verify or refute statements concerning the conditions of the weather at given times. The increasing interest in this branch of science, and the ultimate completeness to which its development will attain, and the consequent enlargement of its sphere of usefulness in every-day life, fully justifies the maintenance of these observations, which are believed to be the most complete at present taken in the city.

OBSERVATORY.

Latitude	40.41 north.
Longitude	73.57 west.
Height of ground above the sea	126 feet.
" instrument above the ground	19 "
" " " sea	145 "



EXPLANATION.

Daily mean of Thermometer.

" " " Barometer, reduced to 32° Fah.r and sealevel.

Rain Fall.

DIAGRAM SHOWING STATE OF THERMOMETER AND BAROMETER AND DAILY RAINFALL,
AT PROSPECT PARK, FOR THE YEAR 1872.

Accompanying Meteorological Reports.

JNO. Y. CULYER, CHIEF ENGINEER.

Vertical lines represent days.

Space on Thermometer scale represents 1 degree.

" " Barometer " " 1/10 inch.

" " Rain Fall " " 1/10 inch.

J. Bien Lith.

METEOROLOGICAL TABLE No. 1.

Table showing the observed height of the Barometer monthly, for the year ending December 31st, 1872.

MONTH. 1872.	MEAN AT 7 A. M.	MEAN AT 2 P. M.	MEAN AT 9 P. M.	MONTH MEAN.	MAXIMUM.	MINIMUM.	DIFFERENCE OF RANGE.
January.....	30.052	30.020	30.026	30 032	30.492	29.594	.898
February....	30.026	29.986	29.994	30.002	30.505	29.518	.987
March.....	30.039	29.976	31.005	30.336	30.481	29.061	1.420
April	30.660	30.022	30.061	30.248	30.346	29.676	.670
May.....	30.009	29.952	30.021	29.994	31.044	29.618	1.426
June.....	30.004	29.681	30.026	29.903	30.801	29.544	1.257
July.....	30.010	29.670	30.006	29.898	30.261	29.721	.540
August	30.378	30.327	30.021	30.242	30.265	29.667	.598
September ..	30.069	30.040	30.064	30.059	30.334	29.781	.553
October	30.086	30.075	30.077	30.079	30.508	29.058	1.450
November....	30.082	30.033	30.106	30.073	30.384	29.587	.797
December ...	30.237	30.107	30.130	30.158	31.491	29.614	1.877

Annual mean at 7 A. M. of 366 observations 30.137
" 2 P. M. of 366 " 29.990
" 9 " of 366 " 30.128

Annual mean of 1,098.....30.085

Maximum for the year, 31.491—7 A. M., Dec. 25th.
Minimum " 29.058—7 " Oct. 1st.

Difference range, 2.433.

METEOROLOGICAL TABLE No. 2.

Table showing the state of the Thermometer monthly, for the year ending December 31st, 1872.

MONTH. 1872.	FORENOON.		AFTERNOON.		MONTH MEAN.	MAXIMUM.	MINIMUM.	DIFFERENCE RANGE.
	No. of observations.	MEAN.	No. of observations.	MEAN.				
January	31	25.46	62	30.29	28.70	48.00	35.00	13.00
February	29	24.81	58	32.04	29.46	57.50	9.00	48.50
March	31	25.09	62	31.60	29.68	61.00	2.00	63.00
April	30	45.30	60	51.63	49.67	81.00	30.00	51.00
May	31	54.77	62	62.45	62.37	90.50	38.00	52.50
June	30	70.83	60	39.95	71.34	92 50	50.00	42.50
July	31	41.79	62	79.03	60.41	96.00	62.00	34.00
August	31	71.53	62	76.19	72.92	90.00	58.00	32.00
September	30	62.26	60	66.87	65.25	91.00	47.00	44.00
October	31	49.11	62	53.35	54.46	73.00	36.00	37.00
November	30	38.36	60	44.19	45.27	60.50	15.00	45.50
December	31	23 42	62	26.54	28.36	46.50	3.00	43.50

Annual mean, in forenoon, of 366 observations.....44.39
" afternoon, " 732 " 49.51

Annual mean of 1.098.....49.82

Maximum during the year.....96.00
Minimum " " 2.00
Difference of range.....98.00

METEOROLOGICAL TABLE No. 3.

Table showing the duration and depth of Rain monthly, during the year ending December 31st, 1872.

MONTH. 1872.	NO. OF DAYS ON WHICH RAIN OCCURRED.	DURATION.			DEPTH IN INCHES.	TOTAL DEPTH IN INCHES.	REMARKS.
		DAYS.	HOURS.	MIN.			
January...	3	0	20	00	2.20	2.20	A number of light showers occurred during March, May, June, July, August and September, but not of such a character as to warrant a measurement.
February..	4	0	19	30	1.23	3.43	
March	4	1	00	53	4.00	7.43	
April	6	2	16	18	2.77	10.20	
May	9	6	10	06	3.00	13.20	
June	8	2	18	34	2.27	15.47	
July	10	2	08	08	8.72	24.19	
August ...	8	1	16	08	7.77	31.96	
September	7	2	17	06	3.29	35.25	
October...	8	1	20	00	2.89	38.14	
November.	6	3	11	24	3.07	41.21	
December .	6	1	01	01	2.12	43.33	
Total...	79	27	15	08	43.332		

JOHN Y. CULYER,
Chief Engineer.